Chapter 15 Subaru

This chapter contains information for testing Subaru vehicles with the Asian Import Vehicle Communication Software (VCS). The following Subaru systems may be available for testing or troubleshooting:

- Engine
- Transmission
- Antilock Brake System (ABS)
- Airbag (SRS - Supplemental Restraint System)

15.1 Testing Engine Systems

The following sections include information for testing Subaru engine systems. Subaru engine testing includes:

- “Code Reading Connector Locations” on page 165
- “Connecting the Scan Tool to the Vehicle”
- “Reading Engine Codes” on page 174
- “D-Check and Read Memory Connector Locations”
- “Automatic Code Reading” on page 198
- “Code Type 08” on page 203

15.1.1 Code Reading Connector Locations

This section contains locations for diagnostic connectors for the following Subaru vehicles:

- “Carbureted engine common connector locations” on page 166 (Table 15-1, Figure 15-1)
- “1983–84 Turbo common connector locations” on page 166 (Table 15-2, Figure 15-2
- “Justy common connector locations” on page 167 (Table 15-3, Figure 15-3)
- “Loyale common connector locations” on page 167 (Table 15-4, Figure 15-4)
- “1990–94 Legacy and 1993–95 Impreza 1.8L common connector locations” on page 168 (Table 15-5, Figure 15-5)
- “SVX common connector locations” on page 169 (Table 15-6, Figure 15-6)
- “XT and XT6 common connector locations” on page 169 (Table 15-7, Figure 15-7)
- “1995 Legacy, 1995 Impreza 2.2L and 1996-05 Subaru common connector locations” on page 170 (Table 15-8, Figure 15-8)

See also “D-Check and Read Memory Connector Locations” on page 191

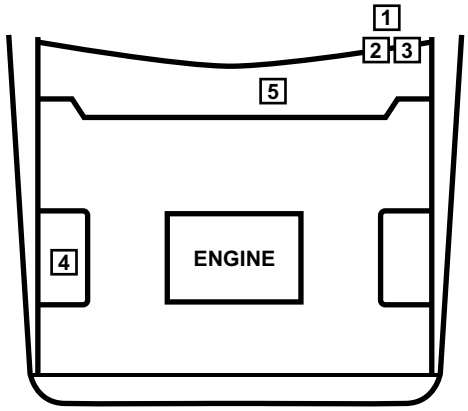


Figure 15-1 *Carbureted engine common connector locations*

Table 15-1 *Carbureted engine connector locations*

CONNECTOR	LOCATION
D-Check connectors	1 (next to ECM)
Check connectors 2 and 3	2 (next to ECM)
Check connector 4	3 (next to ECM)
Check connector 1	4 (R/F strut area)
ECM	5 (under steering column)

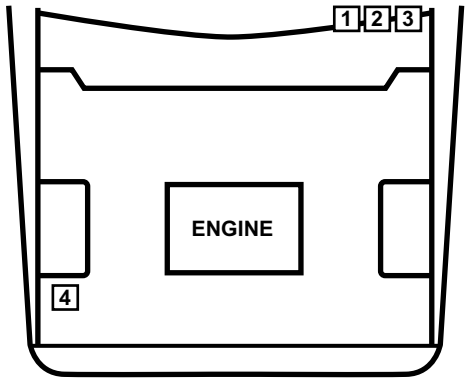


Figure 15-2 *1983–84 Turbo common connector locations*

Table 15-2 *1983–84 Turbo connector locations*

CONNECTOR	LOCATION
ECM	1 (under steering column)
D-Check connectors	2 (next to ECM)
Check connectors 1, 2, and 3	3 (next to ECM)
Check connector 4	4 (front of R/F strut tower)

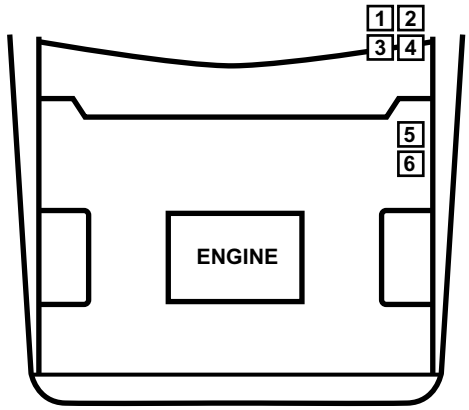


Figure 15-3 *Justy common connector locations*

Table 15-3 *Justy connector locations*

CONNECTOR	LOCATION
ECVT D-Check and Read Memory connectors	1 (by ECVT module)
ECM D-Check and Read Memory connectors	2 (by ECM module)
ECVT control module	3 (left of ECM)
ECM control module	4 (left of steering column)
9-pin diagnostic connector	5 (left of fire wall area)
6-pin and 9-pin diagnostic connectors	6 (left of fire wall area)

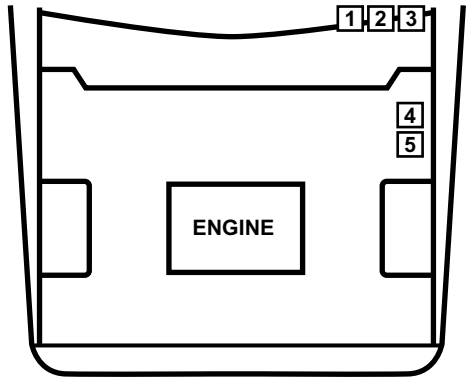


Figure 15-4 *Loyale common connector locations*

Table 15-4 *Loyale connector locations**

CONNECTOR	LOCATION
ECM	1 (under steering column)
D-Check & Read Memory connectors—carbureted, some MPFI and SPI	2 (next to ECM connector)
17-pin or 13-pin Check connector	3 (next to ECM connector)
17-pin or 13-pin Check connector (alternate location) & D-Check connectors	4 (left side of fire wall area)
9-pin Check connector (some models)	5 (left side of fire wall area)
*Transmission control module (TCM) is located inside the left quarter panel (4EAT only).	

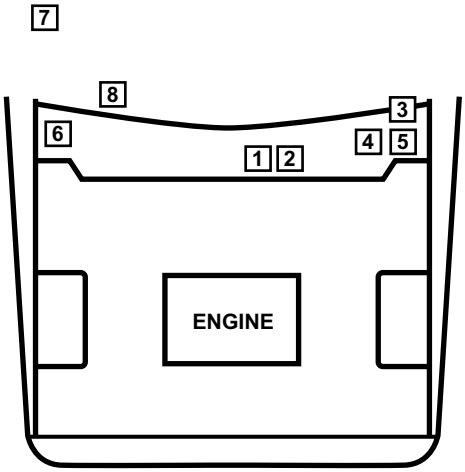


Figure 15-5 *1990–94 Legacy and 1993–95 Impreza 1.8L common connector locations*

Table 15-5 *Legacy and Impreza 1.8L connector locations*

VEHICLE	YEAR	CONNECTOR	LOCATION
Impreza 1.8L	1993–94	ECM	5 (left side of steering column)
	1993–95	22-pin	1 (left side of heater box)
		9-pin	2 (left side of heater box)
		D-Check and Read Memory for engine and transmission	3 (under left side of dash)
		TCM	4 (left side of steering column)
		ABS controller	7 (under R/F seat carpet)
	1995	ECM	8 (under right side of passenger carpet)
Legacy	1990–94	22-pin	2 (left side of heater box)
		D-Check and Read Memory for engine and transmission	3 (under left side of dash)
		TCM	4 (left side of steering column)
		ECM	5 (left side of steering column)
		9-pin	2 (left side of heater box)
		ABS controller	7 (under R/F seat carpet)

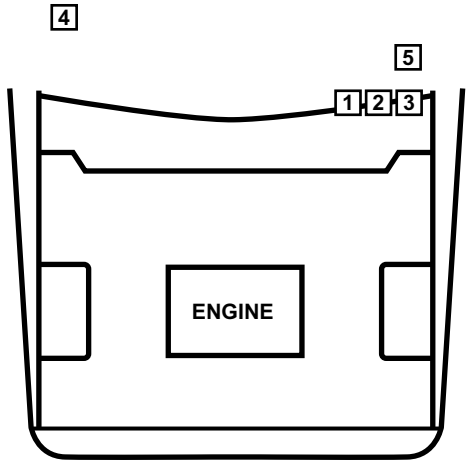


Figure 15-6 *SVX common connector locations*

Table 15-6 *SVX connector locations*

CONNECTOR	LOCATION
TCM	1 (under left side of dash)
ECM	2 (under left side of dash)
10-pin and 20-pin connectors	3 (left side of kickpanel)
ABS control unit	4 (under RF seat)
9-pin Check connector and diagnostic connector	5 (left side of kick panel)

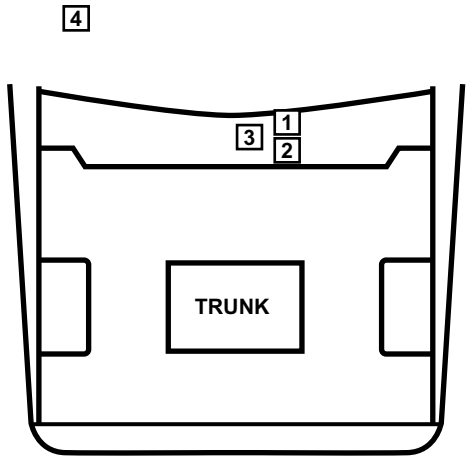


Figure 15-7 *XT and XT6 common connector locations*

Table 15-7 *XT and XT6 connector locations*

CONNECTOR	LOCATION
D-Check connector; 9-pin Check connector	1
Read Memory connector	2 (by ECM)
MPFI controller	3 (in trunk below rear window)
TCM and power steering controller connector (under left rear quarter-window)	4

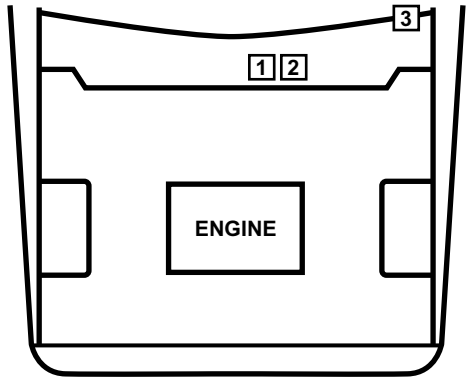


Figure 15-8 *1995 Legacy, 1995 Impreza 2.2L and 1996-05 Subaru common connector locations*

Table 15-8 *1995 Legacy, Impreza 2.2L and 1996 to 2005 connector location*

VEHICLE	YEAR	CONNECTOR	LOCATION
Legacy and Impreza 2.2L	1995	ABS diagnosis connector	1 (left side of heater box)
		16-pin OBD-II connector for engine and transmission	2 (under left side of dash)
		Airbag (SRS) diagnosis connector	3 (under left side of dash)
All Models	1996-04	ABS diagnosis connector	1 (left side of heater box)
		16-pin OBD-II connector for engine and transmission	2 (under left side of dash)
		Airbag (SRS) diagnosis connector	3 (under left side of dash)
All except Legacy	2005	16-pin OBD-II connector for engine and transmission	2 (under left side of dash)
		Airbag (SRS) diagnosis connector	3 (under left side of dash)
Legacy		16-pin OBD-II connector for engine and transmission	1 (left side of heater box)

15.1.2 Connecting the Scan Tool to the Vehicle

This section contains information for connecting the scan tool to the diagnostic connector for testing or troubleshooting. Included in this section are the following:

- "Connections Using the MULTI-1 Adapter" on page 171 (Figure 15-9)
- "Connections Using the MULTI-2 Adapter" on page 172 (Figure 15-13)
- "Connections Using the Power Pac" on page 172
- "Connections Using the OBD-II Adapter" on page 173 (Figure 15-14)

Connections Using the MULTI-1 Adapter

To connect the MULTI-1 adapter (Figure 15-9) to a Subaru vehicle, a 12 volt power cable (Figure 15-11, Figure 15-12) and the ground adapter (Figure 15-10) must be used. Connect the MULTI-1 adapter as shown in (Figure 15-9). Connect the blue wire of the MULTI-1 adapter to the vehicle Check connector and pin designated in (Table 15-9).

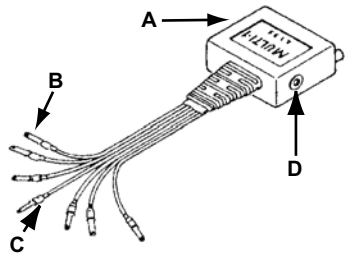


Figure 15-9 *MT2500-90 MULTI-1 adapter*

A—MULTI-1 adapter (MT2500-90)

B—Ground - black wire (connect the MT2500-41 ground adapter here) (Figure 15-10)

C—MULTI-1 blue wire (see Table 15-9 for connection to vehicle connector)

D—12 volt power jack (connect the MT2500-100/200 power cable here) (Figure 15-11, Figure 15-12)

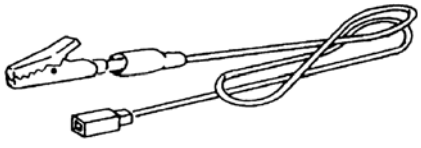


Figure 15-10 *MT2500-41 ground adapter*

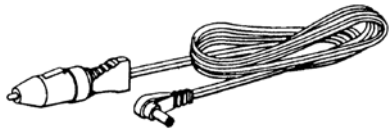


Figure 15-11 *MT2500-100 lighter power cable*

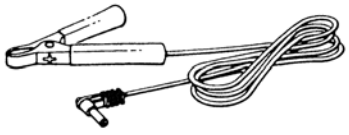


Figure 15-12 *MT2500-200 battery power cable*

Connections Using the MULTI-2 Adapter

The MULTI-2 adapter can be used on many Asian import vehicles. The MULTI-2 adapter connector “C” is designed to connect to some Subaru vehicles equipped with a 9-pin Check connector. Connect a 12 volt power cable (Figure 15-11, Figure 15-12) and the ground adapter (Figure 15-10) as shown in Figure 15-13. See Table 15-9 for applicable vehicles.

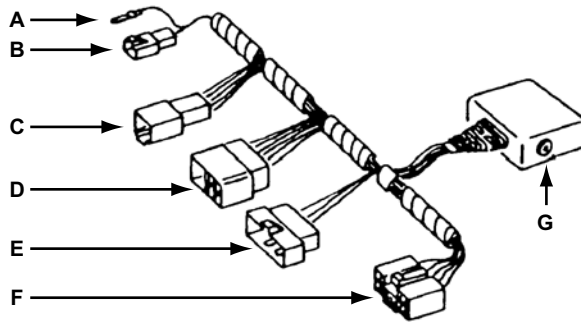


Figure 15-13 *MT2500-42 MULTI-2 Asian adapter*

A—Ground - black wire (connect the MT2500-41 ground adapter here) (Figure 15-10)

B—Mazda & Ford (MULTI-2E)

C—Isuzu & Geo with GM system (MULTI-2D)

D—Subaru (MULTI-2C)

E—Mazda & Ford (MULTI-2B)

F—Special applications (MULTI-2A)

G—12 volt power jack (connect the MT2500-100/200 power cable here) (Figure 15-11, Figure 15-12)

Connections Using the Power Pac

On Subaru vehicle systems that only have flash codes, the optional MT2500-600 Power Pac can be used instead of the power cables. The Power Pac installs in the data cable connector.

NOTE:
On OBD-II systems, the Power Pac is not necessary because the scan tool receives power through the diagnostic connector.

Connections Using the OBD-II Adapter

The 16-pin OBD-II adapter is used on some Subaru models beginning in 1995 and all 1996 and later OBD-II equipped vehicles. Use the OBD-II adapter with the specified Personality Key™ device to read engine and transmission codes as shown in “OBD-II adapter and Personality Key™”. See Table 15-9 for applicable vehicles.

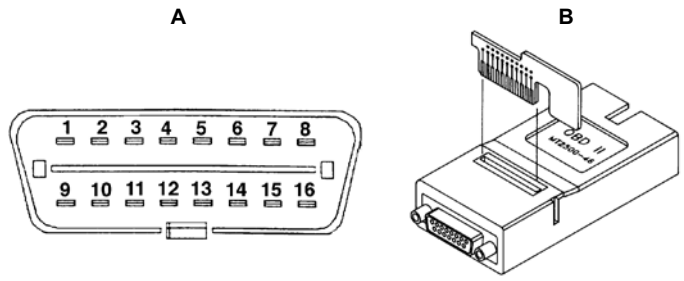


Figure 15-14 *OBD-II adapter and Personality Key*™

A—16-pin DLC

B—OBD-II adapter and Personality Key™

15.1.3 Reading Engine Codes

The following contains information for connecting the scan tool to the vehicle for reading engine codes. Included in this section are the following:

- “Subaru Vehicle Connection Table” on page 174 (Table 15-9)
- “Subaru Vehicle Connection Diagrams” on page 183 (Figure 15-15 to Figure 15-31)

Subaru Vehicle Connection Table

Find the vehicle being tested in Table 15-9 “Subaru Vehicle Connections Table” and then go to the correct “Reading Codes Connector” figure number shown for the vehicle.

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User’s Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1983	Brat	1.8L H4	2BBL	X				Figure 15-19	Figure 15-33		Table 15-1
		1.8L H4T	MFI	X				Figure 15-15	Figure 15-35		Table 15-2
	Hardtop	All	All	X				Figure 15-19	Figure 15-33		Table 15-1
	Hatchback	All	All	X				Figure 15-19	Figure 15-33		Table 15-1
	Sedan	All	All	X				Figure 15-19	Figure 15-33		Table 15-1
	Wagon	1.8L H4	1BBL	X				Figure 15-19	Figure 15-33		Table 15-1
		1.8L H4	2BBL	X				Figure 15-19	Figure 15-33		Table 15-1
		1.8L H4T	MFI	X				Figure 15-15	Figure 15-35		Table 15-2
1984	Brat	1.8L H4	2BBL	X				Figure 15-28	Figure 15-34		Table 15-1
		1.8L H4-T	MFI	X				Figure 15-16	Figure 15-35		Table 15-2
	Hardtop	1.6L H4	2BBL	X				Figure 15-28	Figure 15-34		Table 15-1
		1.8L H4	1BBL	X				Figure 15-28	Figure 15-34		Table 15-1
		1.8L H4	2BBL	X				Figure 15-28	Figure 15-34		Table 15-1
		1.8L H4-T	MFI	X				Figure 15-16	Figure 15-35		Table 15-2
	Hatchback	All	All	X				Figure 15-28	Figure 15-34		Table 15-1
	Sedan	All	All	X				Figure 15-28	Figure 15-34		Table 15-1
	Wagon	1.8L H4	1BBL	X				Figure 15-28	Figure 15-34		Table 15-1
		1.8L H4	2BBL	X				Figure 15-28	Figure 15-34		Table 15-1
		1.8L H4-T	MFI	X				Figure 15-16	Figure 15-35		Table 15-2
1985	Brat	All	All	X				Figure 15-21	Figure 15-36		Table 15-4
	Hatchback	All	All	X				Figure 15-21	Figure 15-36		Table 15-1
	Sedan	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	MFI	X				Figure 15-29	Figure 15-35		Table 15-4
		1.8L H4-T	MFI	X				Figure 15-29	Figure 15-35		Table 15-4
	Wagon	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	MFI	X				Figure 15-29	Figure 15-35		Table 15-4
	XT	1.8L H4	MFI	X				Figure 15-29	Figure 15-37		Table 15-7
		1.8L H4-T	MFI	X				Figure 15-29	Figure 15-37		Table 15-7

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1986	Brat	All	All	X				Figure 15-26, Figure 15-27	Figure 15-36		Table 15-4
	Coupe	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	SPI	X				Figure 15-22, Figure 15-23	Figure 15-38	Figure 15-38	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-29	Figure 15-35		Table 15-4
	Sedan	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	SPI	X				Figure 15-22, Figure 15-23	Figure 15-38	Figure 15-38	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-29	Figure 15-35		Table 15-4
	Wagon	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	SPI	X				Figure 15-22, Figure 15-23	Figure 15-38	Figure 15-38	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-29	Figure 15-35		Table 15-4
	XT	1.8L H4	MFI	X				Figure 15-29	Figure 15-37		Table 15-7
		1.8L H4-T	MFI	X				Figure 15-29	Figure 15-37		Table 15-7
1987	Brat	All	All	X				Figure 15-26, Figure 15-27	Figure 15-36		Table 15-4
	Coupe	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	SPI	X				Figure 15-24, Figure 15-25	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-21	Figure 15-35		Table 15-4
	Hatchback	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	2BBL	X				Figure 15-26, Figure 15-27	Figure 15-36		Table 15-1
	Justy	All	All	X				Figure 15-20	Figure 15-39	Figure 15-39	Table 15-3
	Sedan	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	SPI	X				Figure 15-24, Figure 15-25	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-21	Figure 15-35		Table 15-4
	Wagon	1.8L H4	2BBL	X				Figure 15-21	Figure 15-36		Table 15-1
		1.8L H4	SPI	X				Figure 15-24, Figure 15-25	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-21	Figure 15-35		Table 15-4
	XT	1.8L H4	MFI	X				Figure 15-21	Figure 15-41	Figure 15-41	Table 15-7
		1.8L H4-T	MFI	X				Figure 15-21	Figure 15-41	Figure 15-41	Table 15-7

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1988	Coupe	1.8L H4	SPI	X				Figure 15-24, Figure 15-25	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	Hatchback	All	All	X				Figure 15-26, Figure 15-27	Figure 15-36		Table 15-1
	Justy	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
	Sedan	1.8L H4	SPI	X				Figure 15-24, Figure 15-25	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	Wagon	1.8L H4	SPI	X				Figure 15-24, Figure 15-25	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	XT	All	All	X				Figure 15-24, Figure 15-25	Figure 15-41	Figure 15-41	Table 15-7
1989	Coupe	1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	Hatchback	All	All	X				Figure 15-26, Figure 15-27	Figure 15-36		Table 15-1
	Justy	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
	Sedan	1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	Touring Wagon	1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	Wagon	1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		1.8L H4-T	MFI	X				Figure 15-30	Figure 15-42	Figure 15-42	Table 15-4
	XT	All	All	X				Figure 15-21	Figure 15-41	Figure 15-41	Table 15-7

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1990	Coupe	All	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		All	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	Justy	1.2L L3	2BBL	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
		1.2L L3	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-3
	Legacy Touring Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-5
	Legacy Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-5
	Sedan	All	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		All	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	Touring Wagon	All	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		All	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	Wagon	All	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		All	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	XT	All	All	X				Figure 15-17, Figure 15-18	Figure 15-41	Figure 15-41	Table 15-7
1991	Justy	1.2L L3	2BBL	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
		1.2L L3	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-3
	Legacy Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-5
	Sedan	1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		2.2L H4	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
	XT	All	All	X				Figure 15-21	Figure 15-41	Figure 15-41	Table 15-7

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1992	Justy	1.2L L3	2BBL	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
		1.2L L3	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-3
	Legacy Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-5
	Sedan	1.8L H4-T	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
		1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		2.2L H4	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
		2.2L H4-T	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	SVX	All	All			X		Power Pac	Figure 15-43	Figure 15-43	Table 15-6
	Wagon	1.8L H4-T	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
		1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
1993	Impreza Wagon	All	All			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-5
	Justy	1.2L L3	2BBL	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
		1.2L L3	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-3
	Legacy Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-5
	Sedan	1.8L H4	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-4
		1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		2.2L H4	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
		2.2L H4-T	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	SVX	All	All			X		Power Pac	Figure 15-43	Figure 15-43	Table 15-6
	Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1994	Impreza Wagon	All	All			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-5
	Justy	1.2L L3	2BBL	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-3
		1.2L L3	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-3
	Legacy Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-5
	Sedan	1.8L H4	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-4
		1.8L H4	SPI	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
		2.2L H4	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
		2.2L H4-T	MFI	X	X			Figure 15-17, Figure 15-18	Figure 15-42	Figure 15-42	Table 15-4
	SVX	All	All			X		Power Pac	Figure 15-43	Figure 15-43	Table 15-6
	Wagon	All	All	X	X			Figure 15-17, Figure 15-18	Figure 15-40	Figure 15-40	Table 15-4
1995	Impreza Coupe	1.8L H4	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-5
		2.2L H4	MFI				X	Figure 15-31			Table 15-5
	Impreza Sedan	1.8L H4	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-5
		2.2L H4	MFI				X	Figure 15-31			Table 15-5
	Impreza Wagon	1.8L H4	MFI			X		Power Pac	Figure 15-42	Figure 15-42	Table 15-5
		2.2L H4	MFI				X	Figure 15-31			Table 15-5
	Legacy Sedan	All	All				X	Figure 15-31			Table 15-8
	Legacy Wagon	All	All				X	Figure 15-31			Table 15-8
	SVX	All	All			X		Power Pac	Figure 15-43	Figure 15-43	Table 15-6
1996 to 2005	All	All	All				X	Figure 15-31			Table 15-8
1996	Impreza Coupe	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy Outback	All	All					OBD-II			
	Legacy Sedan	All	All					OBD-II			
	Legacy Wagon	All	All					OBD-II			
	SVX	All	All					OBD-II			

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
1997	Impreza Coupe	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy Outback	All	All					OBD-II			
	Legacy Sedan	All	All					OBD-II			
	Legacy Wagon	All	All					OBD-II			
	SVX	All	All					OBD-II			
1998	Impreza Coupe	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Legacy Outback	All	All					OBD-II			
	Legacy Sedan	All	All					OBD-II			
	Legacy Wagon	All	All					OBD-II			
	Wagon	All	All					OBD-II			
1999	Impreza Coupe	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Legacy Outback	All	All					OBD-II			
	Legacy Sedan	All	All					OBD-II			
	Legacy Wagon	All	All					OBD-II			
	Wagon	All	All					OBD-II			
2000	Impreza Coupe	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Legacy Sedan	All	All					OBD-II			
	Legacy Wagon	All	All					OBD-II			
	Wagon	All	All					OBD-II			

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
2001	Forester	All	All					OBD-II			
	Impreza Coupe	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy Sedan	All	All					OBD-II			
	Legacy Wagon	All	All					OBD-II			
2002	Forester	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy/ Outback Sedan	All	All					OBD-II			
	Legacy/ Outback Wagon	All	All					OBD-II			
2003	Baja	All	All					OBD-II			
	Forester	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy/ Outback Sedan	All	All					OBD-II			
	Legacy/ Outback Wagon	All	All					OBD-II			
2004	Baja	All	All					OBD-II			
	Forester	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy/ Outback Sedan	All	All					OBD-II			
	Legacy/ Outback Wagon	All	All					OBD-II			

Table 15-9 *Subaru Vehicle Connections Table*

Vehicle Identification Number				Adapter				User's Manual Section and Figure Numbers			
Year	Model	Engine	Fuel System	MULTI-1	MULTI2C	Power Pac	OBD-II	Reading Codes Connector	D-Check Connectors	Read Memory Connectors	Code Reading Connector Locations
2005	Baja	All	All					OBD-II			
	Forester	All	All					OBD-II			
	Impreza Sedan	All	All					OBD-II			
	Impreza Wagon	All	All					OBD-II			
	Legacy/ Outback Sedan	All	All					OBD-II			
	Legacy/ Outback Wagon	All	All					OBD-II			

Subaru Vehicle Connection Diagrams

The following procedures contain directions and diagrams for connecting various subaru Check connectors to the scan tool.

NOTE:
Procedures are specific to each type of connector. Some procedures are specific down to the pin number and color of the Check connector. Be sure that the connector you are using matches the description before you proceed. See Table 15-9 for a guide to the correct application for your vehicle.

To read codes on vehicles with a 7-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 3 of the Check connector (Figure 15-15). Use the ground extension on the MULTI-1 black wire.

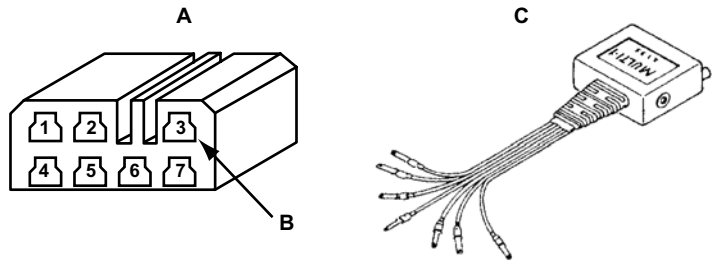


Figure 15-15 *7-pin Check connector*

A—7-pin Check connector (color: brown)
B—Pin 3 (connect the MULTI-1 blue wire here)
C—MULTI-1 adapter

To read codes on vehicles with a 9-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 4 of the Check connector (Figure 15-16).

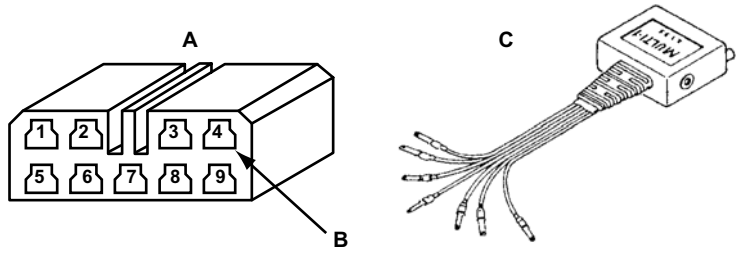


Figure 15-16 *Yellow 9-pin Check connector*

A—9-pin Check connector (color: yellow)
B—Pin 4 (connect the MULTI-1 blue wire here)
C—MULTI-1 adapter

To read codes on vehicles with a 9-pin Check connector:

- Codes can be read using a MULTI-2C or a MULTI-1 adapter. To read codes, connect the MULTI-2C adapter to the Check connector (Figure 15-17) or connect the blue wire of the MULTI-1 adapter to pin 8 of the Check connector (Figure 15-18).

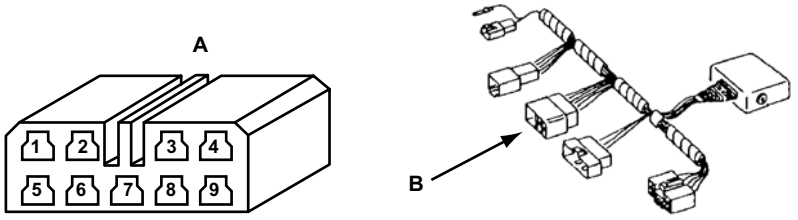


Figure 15-17 *9-pin Check connector and MULTI-2C*

A—9-pin Check connector (color: varies)

B—MULTI-2 adapter

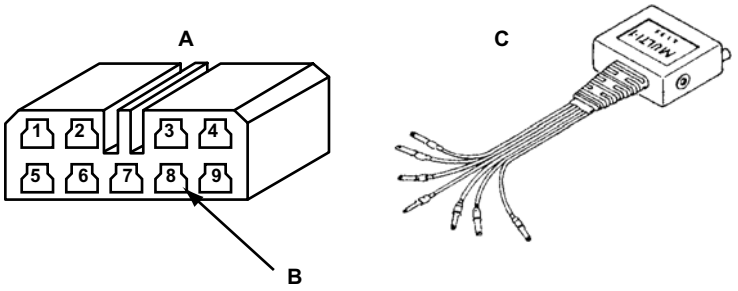


Figure 15-18 *9-pin Check connector and MULTI-1*

A—9-pin Check connector (color: varies)

B—Pin 8 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with an 11-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 13 of the Check connector (Figure 15-19).

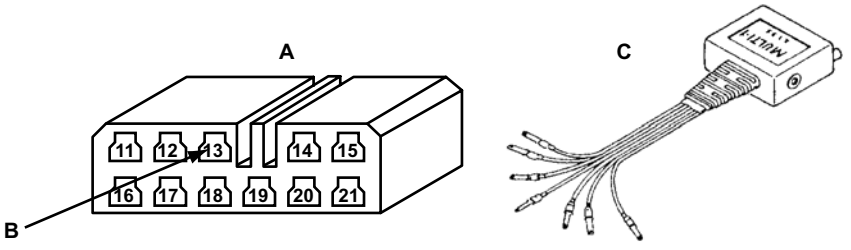


Figure 15-19 *11-pin Check connector*

A—11-pin Check connector (color: brown)

B—Pin 13 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with an 11-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 15 of the Check connector (Figure 15-20).

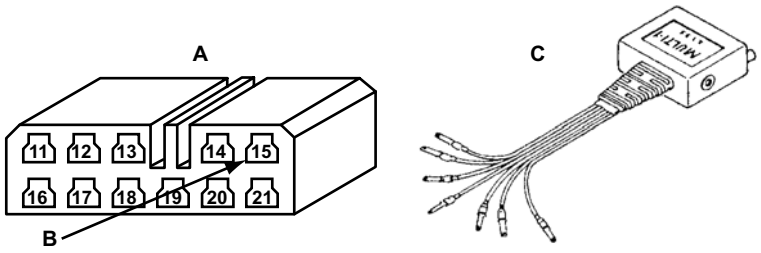


Figure 15-20 *11-pin Check Connector*

A—11-pin Check connector (color: varies)

B—Pin 15 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with a 13-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 10 of the Check connector (Figure 15-21).

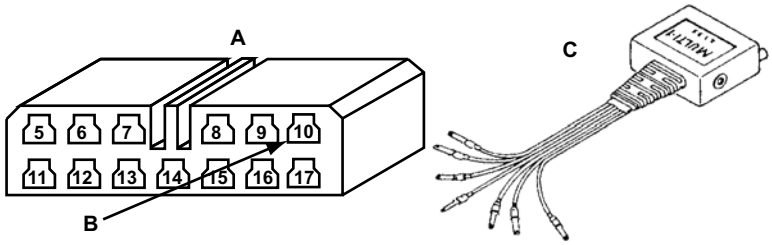


Figure 15-21 *13-pin Check connector*

A—13-pin Check connector (color: yellow)

B—Pin 10 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with a 13-pin Check connector:

- Connection depends on the color of your 13-pin Check connector. Determine if your Check connector is natural or yellow in color:

  a. If your Check connector is natural in color, connect the blue wire of the MULTI-1 adapter to pin 11 of the Check connector (Figure 15-22).

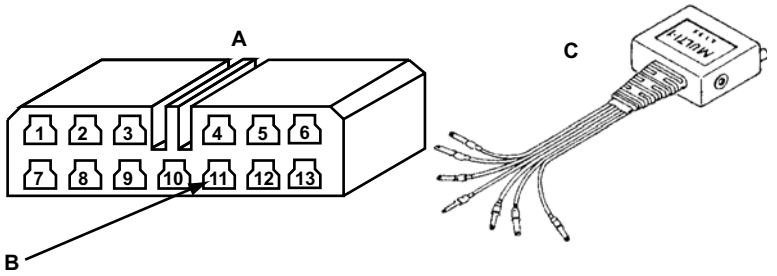


Figure 15-22 *13-pin Check connector*

A—13-pin Check connector (color: natural)

B—Pin 11 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

  b. If your Check connector is yellow in color, connect the blue wire of the MULTI-1 adapter to pin 6 of the Check connector (Figure 15-23).

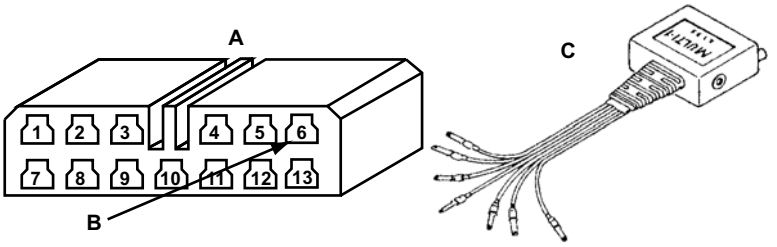


Figure 15-23 *13-pin Check connector*

A—13-pin Check connector (Color: yellow)

B—Pin 6 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with a 13-pin Check connector:

- Connection depends on the color and/or location of your 13-pin Check connector. Determine if your Check connector is either under the hood and black, under the dash or inside the trunk:

  a. If your Check connector is under the hood and black, connect the blue wire of the MULTI-1 adapter to pin 5 of the Check connector (Figure 15-24).

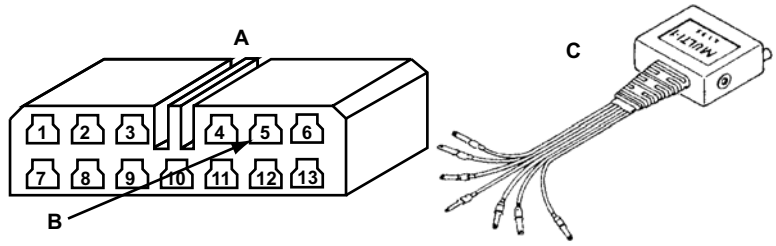


Figure 15-24 *13-pin Check connector*

A—13-pin Check connector (color: black, location: under hood)

B—Pin 5 (connect the MULTI-1 blue wire here)

C—MULTI-1adapter

  b. If your Check connector is located under the dash or inside the trunk, connect the blue wire of the MULTI-1 adapter to pin 6 of the Check connector (Figure 15-25).

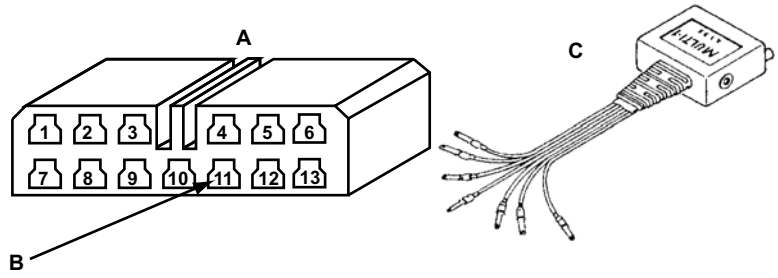


Figure 15-25 *13-pin Check connector*

A—13-pin Check connector (color: varies, location: under dash or inside trunk)

B—Pin 11 (Connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with a 13-pin or 17-pin Check connector:

- Determine if your Check connector is a 13-pin or a 17-pin Check connector:
  a. If your Check connector is 13-pin, connect the blue wire of the MULTI-1 adapter to pin 11 of the Check connector (Figure 15-26).

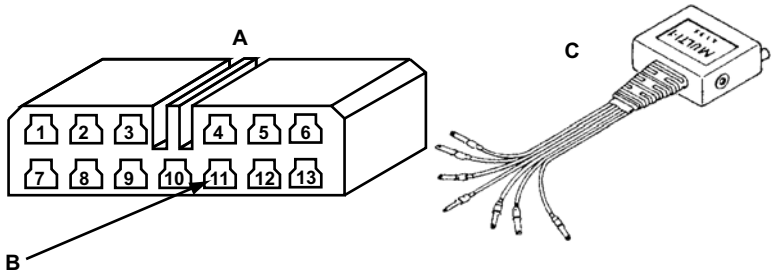


Figure 15-26 *13-pin Check connector*

A—13-pin Check connector (color: varies)
B—Pin 11 (connect the MULTI-1 blue wire here)
C—MULTI-1 adapter

  b. If your Check connector is 17-pin, connect the blue wire of the MULTI-1 adapter to pin 7 of the Check connector (Figure 15-27).

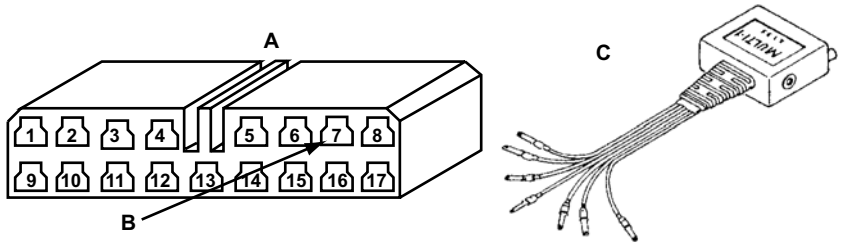


Figure 15-27 *17-pin Check connector*

A—17-pin Check connector (color: varies)
B—Pin 7 (connect the MULTI-1 blue wire here)
C—MULTI-1 adapter

To read codes on vehicles with a 17-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 4 of the Check connector (Figure 15-28).

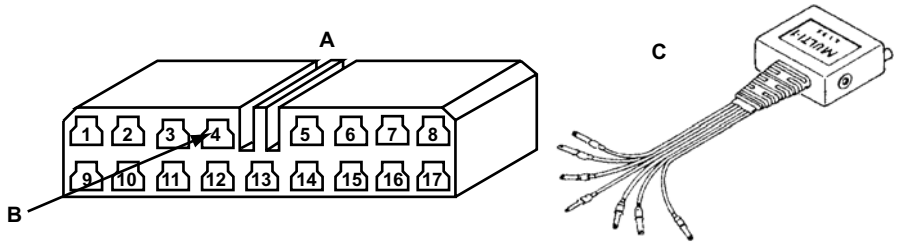


Figure 15-28 *17-pin Check connector*

A—17-pin Check connector (color: varies)

B—Pin 4 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with a 17-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 7 of the Check connector (Figure 15-28).

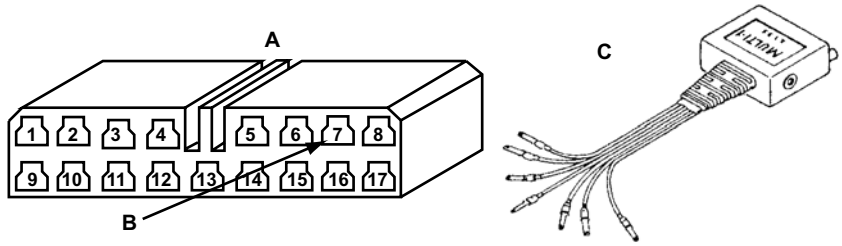


Figure 15-29 *17-pin Check connector*

A—17-pin Check connector (color: yellow)

B—Pin 7 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes on vehicles with a 17-pin Check connector:

- Connect the blue wire of the MULTI-1 adapter to pin 11 of the Check connector (Figure 15-28).

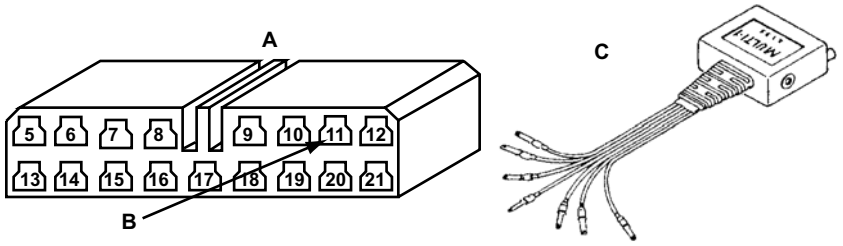


Figure 15-30 *17-pin Check connector*

A—17-pin Check connector (color: black)

B—Pin 11 (connect the MULTI-1 blue wire here)

C—MULTI-1 adapter

To read codes from vehicles with a 16-pin OBD-II connector:

- Use the OBD-II adapter with the specified Personality Key™ device (Figure 15-31).

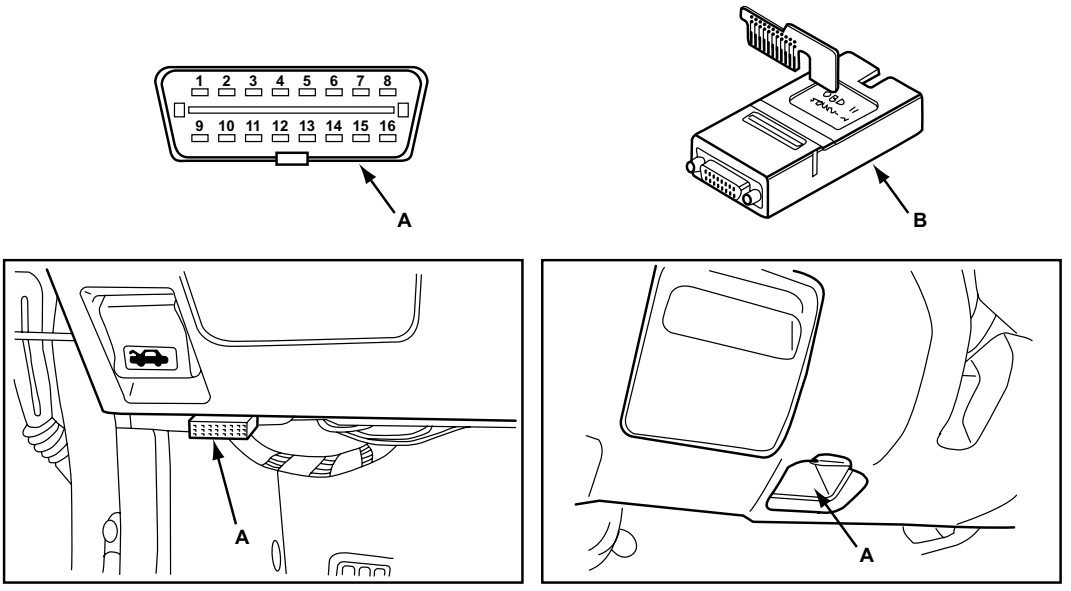


Figure 15-31 *16-pin OBD-II connector and OBD-II adapter with Personality Key™ device and common connector locations*

A—16-pin DLC

B—OBD-II adapter with Personality Key™

15.1.4 D-Check and Read Memory Connector Locations

D-Check connectors are used on some 1995 models and most 1994 and earlier models. D-Check connectors can be identified easily as a mating pair and are green in color. Read Memory connectors are used on some 1995 models, most 1986-94 models with fuel injection and some carbureted engines. Read Memory connectors are similar to the D-Check connectors, but are typically black in color. These connector locations vary by model and may be difficult to locate and identify. Figure 15-32 shows some typical locations where the D-Check connectors and Read Memory connectors may be found on various Subaru models. Refer to the appropriate figure for the vehicle being tested to locate and identify the connectors. Included in this section are the following.

- Common Connector Locations for 1983-1995 Subaru Vehicles
  - “Common locations for D-Check and Read Memory connectors” on page 192 (Figure 15-32)
- Vehicles without ECM memory (D-Check only)
  - “1983 ECC carbureted” on page 193 (Figure 15-33)
  - “1984 ECC carbureted” on page 193 (Figure 15-34)
  - “1983–84 EGI-MGI (Turbo), 1985–87 all except XT” on page 194 (Figure 15-35)
  - “1985–89 ECC overhead cam” on page 194 (Figure 15-36)
  - “1986–87 XT” on page 195 (Figure 15-37)
- Vehicles with ECM memory (D-Check & Read Memory)
  - “1986 SPI connectors” on page 195 (Figure 15-38)
  - “1987 Justy” on page 196 (Figure 15-39)
  - “1987–94 SPI connectors” on page 196 (Figure 15-40)
  - “1987-91 XT models (connector in the trunk)” on page 197 (Figure 15-41)
  - “1988–94 Justy Carbureted, 1990-94 Justy MFI, 1990-94 Legacy, and 1987–94 L-Series” on page 197 (Figure 15-42)
  - “1992-95 SVX models (connectors in left kick panel)” on page 198 (Figure 15-43)

Common Connector Locations for 1983-1995 Subaru Vehicles

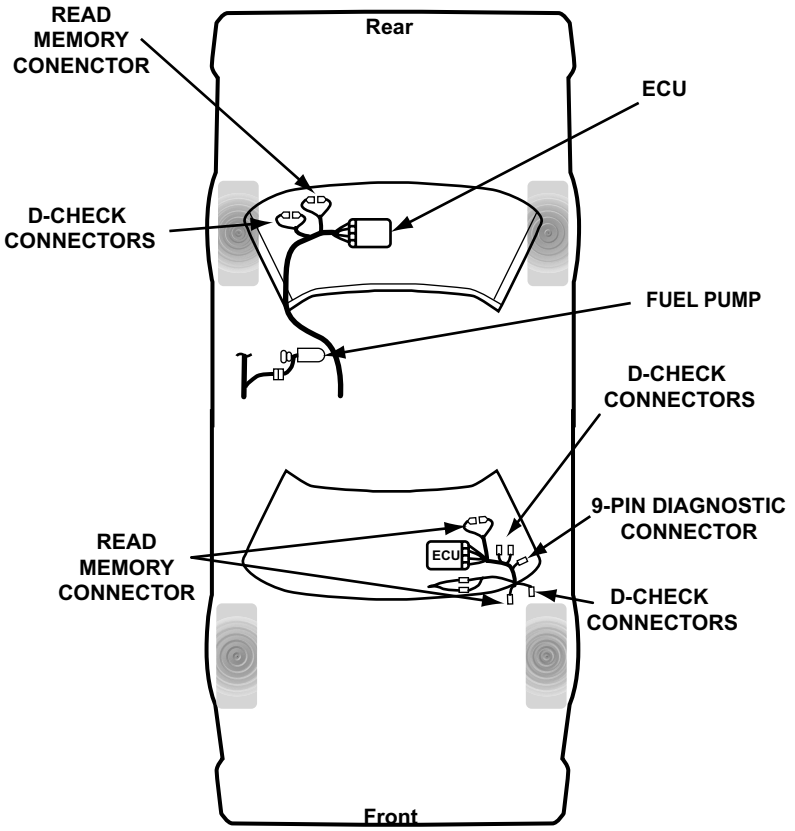


Figure 15-32 *Common locations for D-Check and Read Memory connectors*

Vehicles without ECM Memory (D-Check Only)

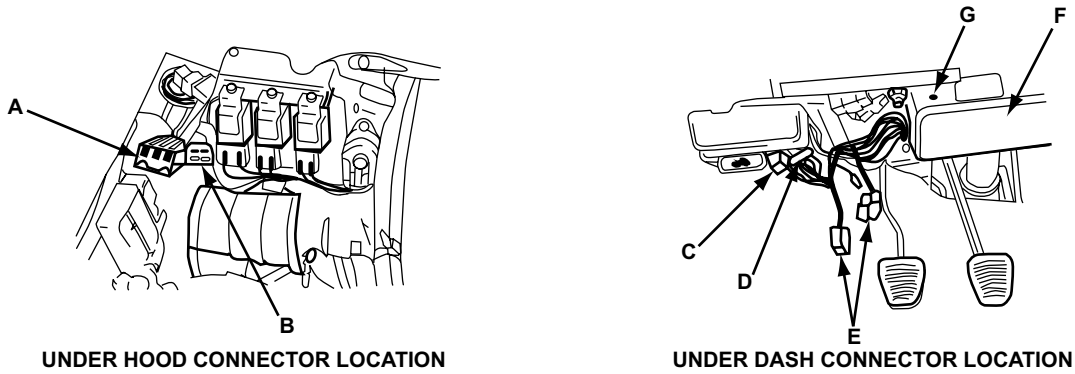


Figure 15-33 *1983 ECC carbureted*

A—Check connector 2
B—Check connector 1
C—Check connector 4
D—Check connector 3
E—D-Check connectors
F—ECU
G—ECU LED

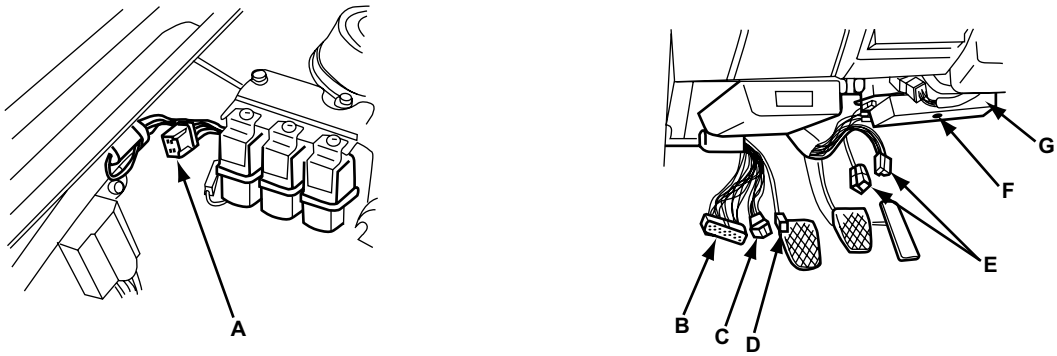


Figure 15-34 *1984 ECC carbureted*

A—Check connector 1
B—Check connector 2
C—Check connector 3
D—Check connector 4
E—D-Check connectors
F—ECU LED
G—ECU

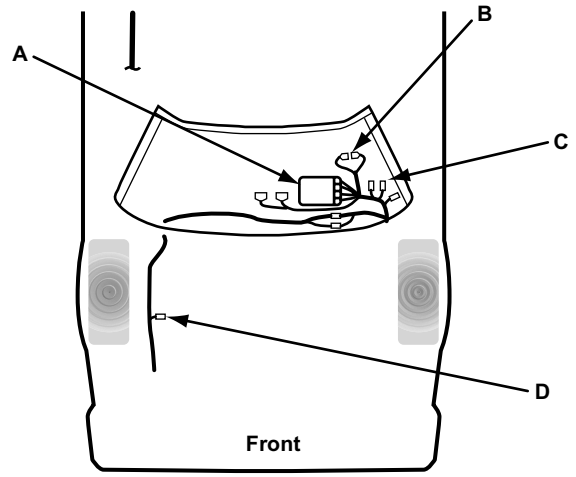
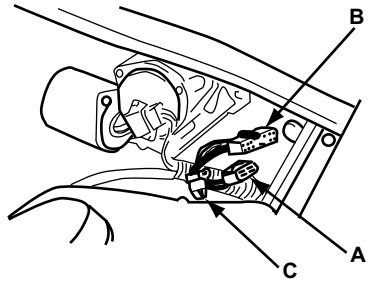
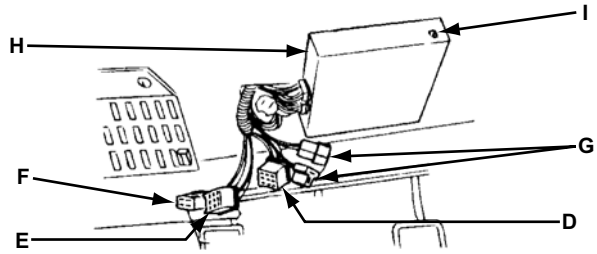


Figure 15-35 *1983–84 EGI-MGI (Turbo), 1985–87 all except XT*

A—ECM
B—D-Check connectors
C—Check connectors 1, 2, and 3
D—Check connector 4



UNDER HOOD CONNECTOR LOCATION



UNDER DASH CONNECTOR LOCATION

Figure 15-36 *1985–89 ECC overhead cam*

A—Check connector 1
B—Check connector 2
C—Check connector 3
D—Check connector 4
E—Check connector 5
F—Check connector 6
G—D-Check connectors
H—ECU
I— ECU LED

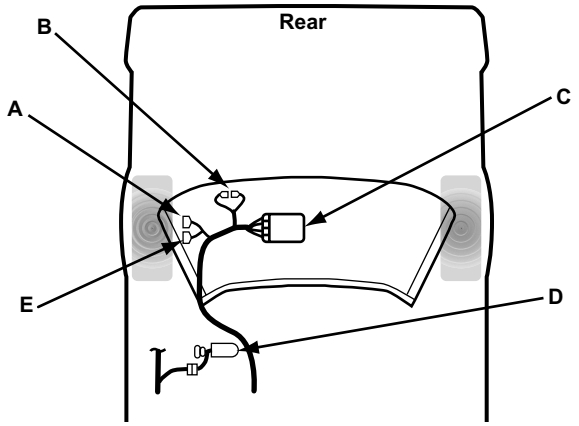


Figure 15-37 *1986–87 XT*

A—Check connector 1
B—D-Check connectors
C—ECM
D—Fuel pump
E—Check connector 2

Vehicles with ECM Memory (D-Check and Read Memory)

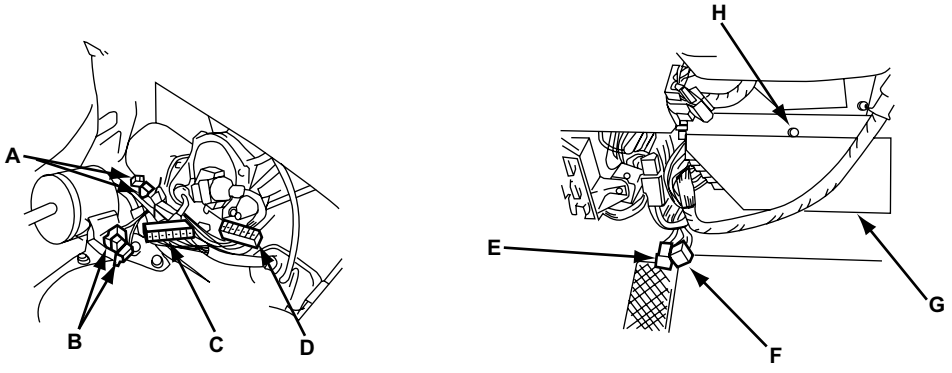


Figure 15-38 *1986 SPI connectors*

A—Read Memory connectors
B—D-Check connectors
C—Check connector 3
D—Check connector 4
E—Check connector 1
F—Check connector 2
G—ECU
H—ECU LED

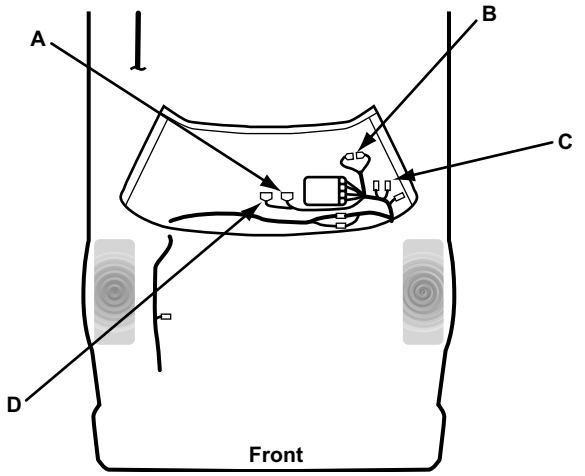


Figure 15-39 *1987 Justy*

A—Fuel pump relay
B—Read Memory connectors
C—D-Check connectors
D—Ignition relay

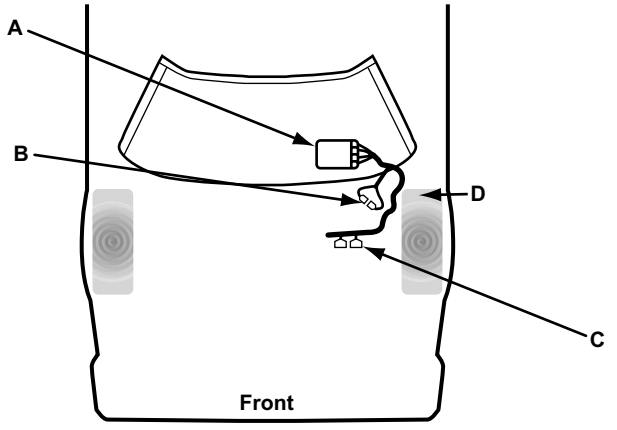


Figure 15-40 *1987–94 SPI connectors*

A—ECM & Check connector (under dash)
B—Read Memory connectors (under hood)
C—D-Check connectors (under hood)
D—Check connectors (under dash and under hood)

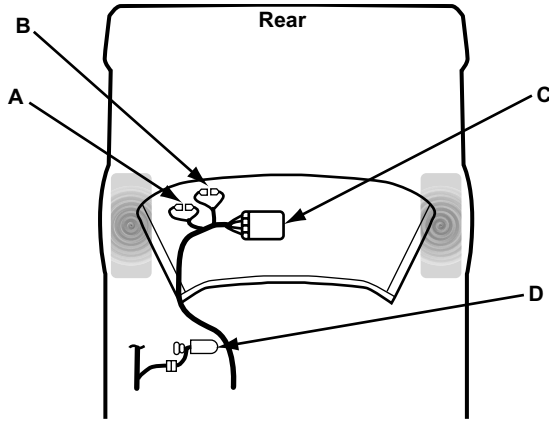


Figure 15-41 *1987-91 XT models (connector in the trunk)*

A—Read Memory connectors
B—D-Check connectors
C—ECM
D—Fuel pump

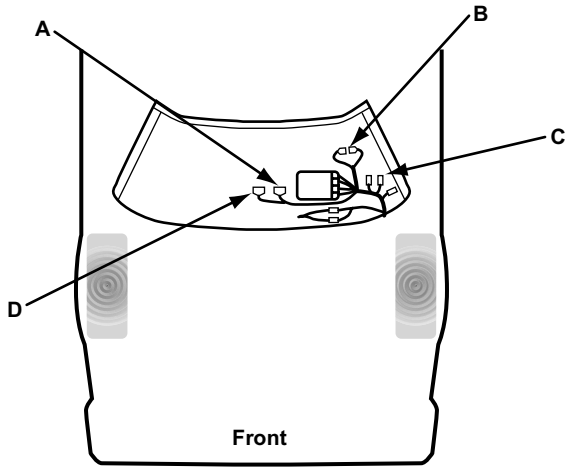


Figure 15-42 *1988–94 Justy Carbureted, 1990-94 Justy MFI, 1990-94 Legacy, and 1987–94 L-Series*

A—Fuel pump relay
B—Read Memory connectors
C—D-Check connectors
D—Ignition relay

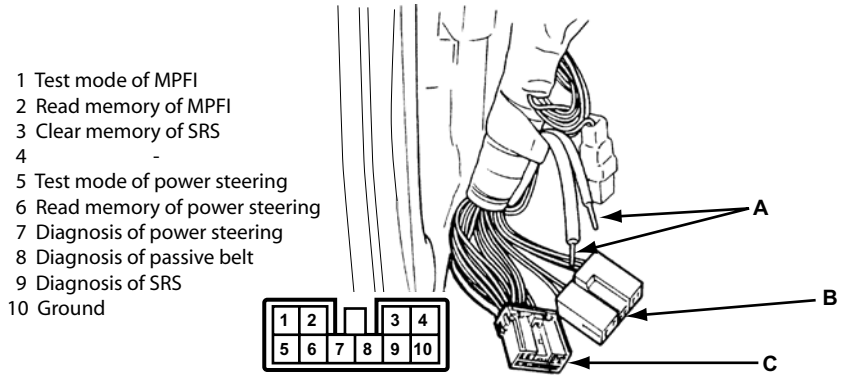


Figure 15-43 *1992-95 SVX models (connectors in left kick panel)*

A—Diagnosis terminals

B—Select monitor connector (Yellow)

C—Diagnosis connector (Black)

15.1.5 Automatic Code Reading

During Subaru automatic code reading, you must perform two diagnostic checks:

- U-Check, or Electronic Control System (ECS) check
- D-Check

The specific procedure for each depends on the model and year of the test vehicle:

- **ECS Check (U-Check)**—All models (do this only if the ECS lamp on the dash is lit)
- **ECC D-Check**—All 1983–89 models except Justy with an electronically controlled carburetor (ECC)
- **Pre-1987 MPI D-Check**—1983–86 vehicles with Multipoint Injection (MPI)
- **1987 Justy EFC D-Check**—1987 Justy with an electronic feedback carburetor (EFC)
- **Justy EFC or MPI D-Check**—1988–90 Justy with an electronic feedback carburetor (EFC) and 1990–91 Justy vehicles with multipoint injection (MPI)
- **SPI or MPI D-Check**—All 1986–94 Single Point Injection (SPI) vehicles and 1987–92 MPI vehicles

Failure to follow the right procedure may result in misreading codes or inaccurate diagnosis.

NOTE:
For transmission codes, see “Transmission Code Reading” on page 209.

ECS Check (U-Check)

The ECM does not have memory capability on most pre-1987 vehicles. The ECM on 1986 models with single-point injection (SPI) and 1983–89 models with an electronically controlled carburetor (ECC) has memory.

IMPORTANT:
Do not turn off the ignition if the ECS lamp is lit because the trouble codes can be lost.

If the ECS lamp is not lit, proceed to the D-Check procedure. If the ECS lamp is lit, perform the U-Check procedure.

To perform a U-Check:

1. If a hard code is present the LED on the ECM will be flashing the code. Gather these codes before proceeding.
2. On vehicles with ECM memory capability, continue with step 3. On vehicles without ECM memory capability, leave the engine running and skip to step 4.
3. On vehicles with ECM memory, turn the key off and connect the vehicle Read Memory connectors together (see “D-Check and Read Memory Connector Locations” on page 191). Some cars have black connectors, and some have clear connectors.
4. Identify the vehicle, connect the data cable, and confirm the identification. On vehicles with ECM memory capability, turn the key on and leave the engine off.
5. Select **CODE FUNCTIONS > AUTO CODE READ** from the MAIN MENU and follow the connection instructions earlier in this chapter.
6. At this point, the scan tool reads and displays any codes stored in the ECM memory.
7. Separate the Read Memory connectors.
8. Proceed to the D-Check procedure for the test vehicle.

1983–89 ECC D-Check

Use this D-Check procedure for all 1983–89 vehicles with an electronically controlled carburetor (ECC), except Justy. If the ECS lamp is lit, perform the ECS check (U-Check) before doing this D-Check.

To perform a D-Check:

1. Connect the scan tool data cable to the vehicle.
2. Start the engine and warm it to normal operating temperature.
3. Stop the engine and connect the green D-Check connectors (see “D-Check and Read Memory Connector Locations” on page 191) together.
4. Turn the ignition on, but do not start the engine.

   The ECS lamp should light, and the ECM transmits a specific vehicle identification code. The scan tool recognizes these codes.
5. Start the engine.

   The ECS lamp should go off.
6. Drive the vehicle at least 60 feet and let the engine idle for at least 20 seconds. (This may be done carefully on a service rack, if necessary.)
7. Snap the throttle fully open two times.
8. Run the engine at 2500 RPM until the ECS lamp lights.

   A flashing lamp indicates the system is OK. A continuously lit lamp indicates trouble codes are present. The scan tool reads these codes.
9. Select **CODE FUNCTIONS > AUTO CODE READ** from the MAIN MENU and follow the connection instructions earlier in this chapter.
10. Separate the D-Check connectors.

Pre-1987 MPI D-Check

Use this D-Check procedure for 1983–86 vehicles with multipoint injection (MPI). If the ECS lamp is lit, perform the ECS check (U-Check) first.

To perform a D-Check:

1. Connect the scan tool data cable to the vehicle.
2. Connect the two green D-Check connectors (see “D-Check and Read Memory Connector Locations” on page 191) together.
3. Turn the ignition on but do not start the engine.

   The ECS lamp on the instrument panel should light.
4. Start the engine.

   The ECS lamp should go off.
5. Run the engine at idle for 1 minute; then snap the throttle fully open 5 times.
6. Briefly race the engine to activate the pressure switch test; then drive at a speed above 6 mph. (This may be done carefully on a service rack, if necessary.)
7. Run the engine at 2500 RPM until the ECS lamp lights.

   A flashing lamp means the system is OK. A continuously lit lamp means trouble codes are present. The scan tool reads the codes.
8. Select **CODE FUNCTIONS > AUTO CODE READ** from the MAIN MENU and follow the connection instructions earlier in this chapter.
9. Repeat this procedure until no trouble codes are found.
10. Separate the D-Check connectors.

1987 Justy EFC D-Check

Use this D-Check procedure for 1987 Justy vehicles with an electronic feedback carburetor (EFC). If the ECS lamp is lit, perform the ECS check (U-Check) before doing this D-Check.

To perform a D-Check:

1. Connect the scan tool data cable to the vehicle.
2. Start the engine and warm it to normal operating temperature.
3. Stop the engine and connect the green D-Check connectors (see “D-Check and Read Memory Connector Locations” on page 191) together.
4. Turn the ignition on but do not start the engine.

   The ECS lamp should light and the ECM transmits specific vehicle identification codes. The scan tool recognizes these codes.
5. Start the engine and the ECS lamp should go off.
6. Drive the vehicle at least 60 feet and let the engine idle for at least 20 seconds. (This may be done carefully on a service rack, if necessary.)
7. Switch the parking lamps, rear window defogger, and heater fan on and then off.

   A flashing lamp indicates the system is OK. A continuously lit lamp indicates trouble codes are present. The scan tool reads these codes.
8. Select **CODE FUNCTIONS > AUTO CODE READ** from the MAIN MENU and follow the connection instructions earlier in this chapter.
9. Separate the D-Check connectors.

1988–90 Justy EFC or 1990–91 MPI D-Check

Use this D-Check procedure for 1988–90 Justy models with an electronic feedback carburetor (EFC), and 1990–91 Justy models with MPI. If the ECS lamp is lit, perform the ECS check (U-Check) before doing this D-Check.

To perform a D-Check:

1. Connect the scan tool data cable to the vehicle.
2. Start the engine and warm it to normal operating temperature.
3. Stop the engine and connect the green D-Check connectors (see “D-Check and Read Memory Connector Locations” on page 191) together.
4. Turn the ignition but do not start the engine.

   The ECS lamp should light and the ECM transmits specific vehicle identification codes. The scan tool recognizes these codes. (Read codes visually on the ECM LED for 1990 Justy MPI; see “Code Type 08a” on page 205.)
5. Depress the accelerator to the floor, then slowly release it.
6. Start the engine.

   The ECS lamp should go off.
7. With a manual transmission, depress the clutch and then release it.
8. Switch the parking lamps, rear window defogger, and heater fan on and then off.
9. Drive the vehicle at 30 mph above 2500 RPM. (This may be done carefully on a service rack, if necessary.)
10. Run the engine at 2700 RPM until the ECS lamp turns on.

    A flashing lamp indicates the system is OK. A continuously lit lamp indicates trouble codes are present. The scan tool reads these codes. (Read codes visually on ECM LED for 1990 Justy MPI; see “Code Type 08a” on page 205.)
11. Select **CODE FUNCTIONS > AUTO CODE READ** from the MAIN MENU and follow the connection instructions earlier in this chapter.
12. After verifying the repair, repeat the D-Check with the Read Memory connectors connected to clear codes from ECM memory.
13. Separate the D-Check and Read Memory connectors.

1986–94 SPI and 1987–92 MPI D-Check (except Justy)

Use this D-Check procedure for 1986–94 single-point injection (SPI) vehicles except Justy and 1987–92 multipoint injection (MPI) vehicles. If the ECS lamp is lit, perform the ECS check (U-Check) before doing this D-Check.

To perform a D-Check:

1. Connect the scan tool data cable to the vehicle.
2. Start the engine and warm it to normal operating temperature.
3. Stop the engine and connect the green D-Check connectors (see “D-Check and Read Memory Connector Locations” on page 191) together.
4. Turn the ignition on but do not start the engine.

   The check engine lamp (CEL) lamp should light.
5. Depress the accelerator completely, release it halfway, hold it for two seconds, and then release it completely.
6. Start the engine.

   The CEL lamp should go off.
7. Drive the vehicle at least 7 mph for at least one minute. (This may be done carefully on a service rack, if necessary.)
8. Warm the engine at 2000 RPM until the ECS lamp turns on.

   A flashing lamp indicates the system is OK. A continuously lit lamp indicates codes are present. The scan tool reads these codes.
9. Select **CODE FUNCTIONS > AUTO CODE READ** from the MAIN Menu and follow the connection instructions earlier in this chapter.
10. After verifying the repair, repeat the D-Check with the Read Memory connectors connected to clear codes from ECM memory.
11. Separate the D-Check and Read Memory connectors.

15.1.6 Code Type 08

Subaru uses five types of code patterns:

- “Code Type 08 (Straight Count)” for ABS systems
- “Code Type 08a” for engines, 4EAT (version 2) and ECVT transmissions, and airbags
- “Code Type 08b” for 4EAT (version 1) transmissions
- “Code Type 08c” for All systems
- “Code Type 08d” for ABS systems

Code Type 08 (Straight Count)

Code Type 08 (Straight Count) codes are read from the ABS LED after the ABS instrument panel light has illuminated on 1990 Legacy Touring Wagon, 1990–1992 Sedan and 1992–1997 SVX. Only current or active codes can be read. No memory codes are available. Codes are read by counting flashes on the ABS LED under the right front seat. If the ignition switch is turned off, the codes will be lost. The vehicle must then be driven following the step-by-step procedures to cause them to reset.

Code Type 08 (Straight Count) flashes the LED in a straight forward counting sequence. the code number digits display as 0.4 to 1.0 second pulses with 0.4 to 1.0 seconds between each pulse. A pause of 5.2 to 13 seconds indicates the end of flashes to count and the code will be repeated again. Only one code is displayed at a time. After repairs, perform a test drive and check for any additional codes that need attention.

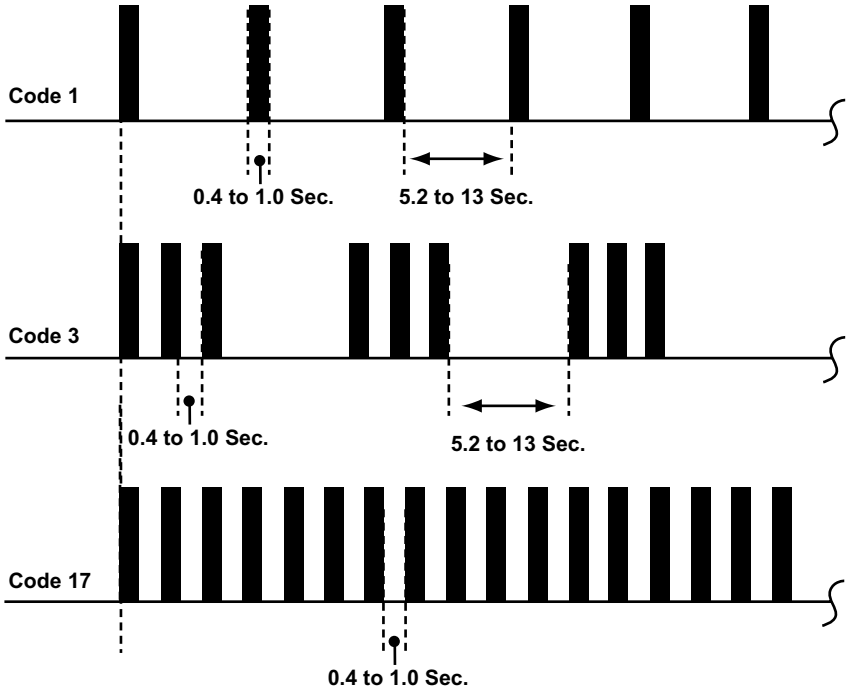


Figure 15-44 *Subaru Code Type 08 (Straight Count)*

Table 15-10 *Subaru Code Type 08 (Straight Count)*

Pattern:	A straight counting of the number of flashes
Read codes on:	ABS LED under right front seat
Start codes by:	Counting flashes of LED after the ABS lamp has illuminated.
When done:	Clear codes occurs every time the ignition switch is turned off.

Code Type 08a

Type 08a engine codes are read from the check engine light on 1990–94 Legacy and Impreza and on 1992–95 SVX. Two types of codes can be read: memory codes and active codes. Codes are read by hooking test connectors together and following a step-by-step procedure.

Code Type 08a flashes a two-digit (long/short) code on the check engine lamp (Figure 15-45). Each 10s digit displays as 1.2-second pulses with 0.3 seconds between each pulse. Each 1s digit displays as 0.2-second pulses with a 0.3-second pause between each digit. With multiple codes, there is a 1.8-second pause between codes.

Additional information for testing other systems that use this code type can be found in each system's testing section.

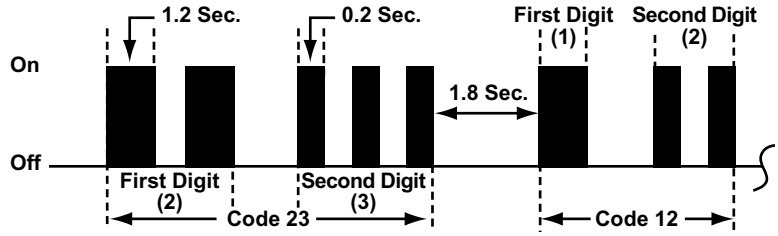


Figure 15-45 *Subaru Code Type 08a*

Table 15-11 *Subaru Code Type 08a*

Pattern:	Long and short
Read codes on:	CHECK ENGINE lamp for engines; panel lamp for transmissions
Start codes by:	Follow the appropriate Subaru procedure.
When done:	Clear codes according to the Subaru procedure.

Code Type 08b

Code Type 08b (Figure 15-46 on page 206) consists of a 2-second flash, followed by a 1-second pause, followed by a series of 0.1-second flashes. Front-wheel drive (FWD) vehicles have ten short flashes, and 4-wheel drive (4WD) vehicles have eleven short flashes.

The short flashes represent code numbers 1 through 10 (or 11). A long (0.6-second) flash indicates a fault at that position.

For example, SHORT—SHORT—SHORT—SHORT—**LONG**—SHORT—SHORT—SHORT—SHORT—SHORT—SHORT indicates Code 5 because the fifth flash is long. If no codes are present the flashes are all short (0.1-second). The code is followed by a 2.5-second pause and a 2-second flash, then the pattern repeats.

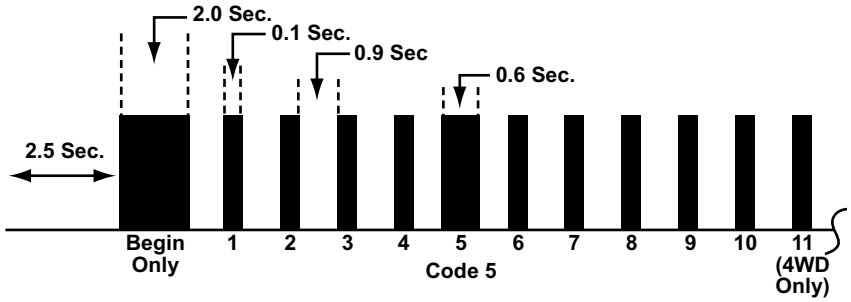


Figure 15-46 *Subaru Code Type 08b*

Table 15-12 *Subaru Code Type 08b*

Pattern:	Long flash
Read codes on:	POWER lamp on instrument panel
Start codes by:	Follow the appropriate Subaru procedure.
When done:	Clear codes according to the Subaru procedure.
10 (or 11) short flashes is pass code.	

Code Type 08c

The ABS light signals a “Start Code” consisting of a 1.2-second flash and 0.3 flash separated by a 0.3 second pause (Figure 15-47). Then the light flashes any stored codes. Each code consists of long and short flashes separated by a 0.3 second pause.

The total number of long flashes represent the 10s or tenth-place digit and the total number of short flashes represents the 1s or first-place digit. A 1.0 second pause follows each code. After all codes flash, the Start Code repeats. This sequence repeats for up to five minutes.

Additional information for testing other systems that use this code type can be found in each system’s testing section.

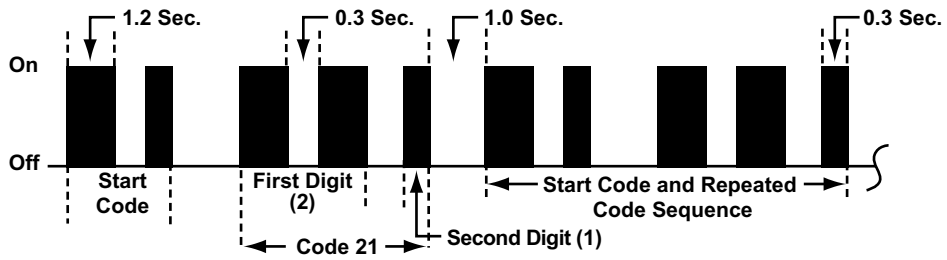


Figure 15-47 *Subaru Code Type 08c*

Table 15-13 *Subaru Code Type 08c*

Pattern:	Long and short
Read codes on:	ABS, airbag (SRS) Warning Light on instrument panel
Start codes by:	Follow the appropriate Subaru procedure.
When done:	Clear codes according to the Subaru procedure.

Code Type 08d

The ABS or TCS light signals a “Start Code” consisting of a 1.5 second flash, a 2.0 second pause, a 1.2 second flash, a 0.6 second pause and a 0.3 second flash. After another 1.2 second pause, the light then flashes any stored codes. Each code consists of long (1.2 second) flashes and short (0.3 second) flashes separated by a 0.3 second pause.

The total number of long flashes represent the 10s or tenth-place digit and the total number of short flashes represents the 1s or first-place digit. A 0.6 second pause separates the 10s digit(s) from the 1s digit(s). A 1.2 second pause follows each code. After all codes flash, the Start Code repeats. This sequence repeats for up to five minutes.

Additional information for testing other systems that use this code type can be found in each system’s section.

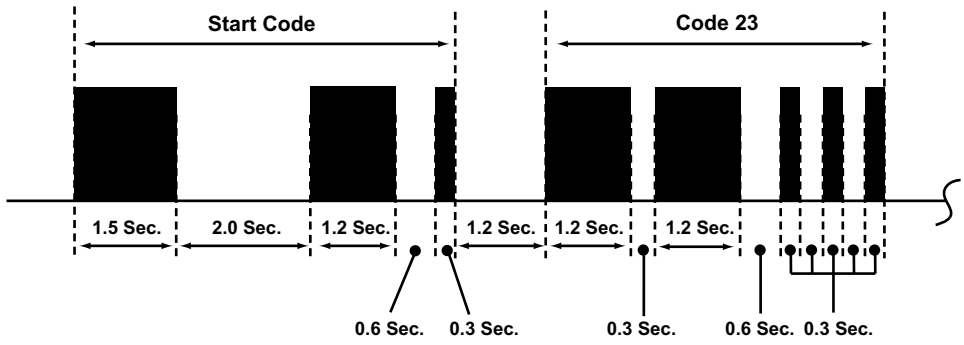


Figure 15-48 *Subaru Code Type 08d*

Table 15-14 *Subaru Code Type 08d*

Pattern:	Long and Short
Read codes on:	ABS or TCS light on instrument panel
Start codes by:	Follow the appropriate Subaru procedure.
When done:	Clear codes according to the Subaru procedure.

15.2 Testing Transmission Systems

The following sections include information for testing Subaru transmission systems. Subaru transmission testing includes the following:

- “Transmission Code Reading” on page 209
- “1987–92 4EAT Transmission (Version 1)” on page 209
- “1990–96 4EAT Transmission (Version 2)” on page 210
- “1990-96 4EAT Transmission (Version 2) History Codes” on page 211
- “1989-94 Justy ECVT Transmission” on page 211
- “1996-05 Subaru Models with an OBD-II 16-pin Connector” on page 212

15.2.1 Transmission Code Reading

If you select TRANSMISSION from the System Selection menu after identifying a vehicle, the scan tool gives you instructions for applying power or connecting to the OBD-II 16-pin connector where applicable. Automatic code gathering is *not* available on Subaru transmissions before 1984 or on Subaru models with an OBD-II 16-pin connector with no other specified Check connectors used to gather transmission codes.The HOW TO GET CODES selection from the Code Functions menu displays manual code gathering instructions (see “How to Get Codes” on page 15).

Subaru uses two different code types for transmission codes. Detailed information for these code types can be found in the section “Code Type 08” on page 203:

- “Code Type 08a” for 1990–94 4EAT (version 2) and all Justy ECVT transmissions.
- “Code Type 08b” for 1987–91 4EAT (version 1) transmissions.
- Generic Powertrain codes for 1996-2005 models with no other diagnostic routines specified by the manufacturer.

The scan tool displays the code type for the specific vehicle you are testing. The transmission control system is placed in the diagnostic mode by performing vehicle-specific routines. These routines consist of a series of ignition cycles, throttle movements, and gear selections.

15.2.2 1987–92 4EAT Transmission (Version 1)

Use this procedure to test the 4EAT transmission in 1987–1991 XT and XT6, and 1987–1992 4WD Loyale Turbo MPFI.

To determine if any codes are present:

- Turn the ignition on (engine off).

  Codes are present if the POWER lamp flashes four times following the 2 second bulb check. If the lamp remains on, there is a problem in the lamp circuit or with the control module. If the lamp remains off after the 2 second lamp check, no codes are present.

To place the TCM in diagnostic, or code-display, mode:

1. Start and warm the engine to operating temperature.
2. Switch the ignition off and set the 1st gear HOLD switch to off. The HOLD switch is on center console, adjacent to gear selector.
3. Place the gear selector in PARK and start the engine.

   The POWER lamp on the instrument panel should light for about 2 seconds.
4. Switch the ignition off, place the gear selector in DRIVE, and switch the 1st gear HOLD switch on.
5. Switch the ignition on without starting the engine, wait at least 2 seconds, and then move the gear selector to 3RD.
6. Switch the 1st gear HOLD switch off, move the gear selector to 2ND, and then switch the 1st gear HOLD switch on.
7. Fully depress and release the throttle to begin manual code gathering.

   The POWER lamp flashes Code Type 8b (Figure 15-46).

15.2.3 1990–96 4EAT Transmission (Version 2)

Use this procedure to test the 4EAT transmission in 1990–1995 Legacy, 1992–1996 SVX, and 1993–95 Impreza.

To determine if any current codes are present:

- Turn the ignition on (engine off).

  Current codes are present if the POWER lamp flashes four times after the 2 second bulb check. If the lamp remains on, there is a problem in the lamp circuit or with the control module. If the lamp remains off after the 2 second lamp check, no current codes are present; however, history codes may still be in memory (See “1990-96 4EAT Transmission (Version 2) History Codes”).

To place the TCM in diagnostic, code-display, mode:

1. Start and warm the engine to operating temperature.
2. Drive the vehicle at speeds above 12 mph.
3. Switch the ignition off and set the MANUAL switch to off. The MANUAL switch is on center console, adjacent to gear selector.
4. Place the gear selector in PARK and start the engine.

   The POWER lamp on the instrument panel should light for about 2 seconds.
5. Switch the ignition off, place the gear selector in DRIVE, and turn the MANUAL switch on.
6. Switch the ignition on without starting the engine, wait at least 2 seconds, and then move the gear selector to 3RD.
7. Switch the MANUAL switch off, move the gear selector to 2ND, and then switch the MANUAL switch on.
8. Move the gear selector to 1ST and switch the MANUAL switch off.
9. Fully depress and release the throttle to begin manual codes.

   If no codes are present, the POWER lamp flashes evenly 2 times per second. If codes are present, the lamp flashes Code Type 8a (long/short) (Figure 15-45 on page 205). A TCM that flashes the 2 times per second pass code may still have history codes in memory.

15.2.4 1990-96 4EAT Transmission (Version 2) History Codes

Use this procedure to check the 4EAT transmission for history codes in 1990–95 Legacy, 1992–96 SVX, and 1993–95 Impreza. A vehicle that flashes the POWER lamp 2 times per second (pass code) may still have history codes stored in memory.

To place the TCM in the diagnostic, history code display mode:

1. Start and warm the engine to operating temperature.
2. Drive the vehicle above 12 mph.
3. Switch the ignition off and set the MANUAL switch to off. The MANUAL switch is on center console, adjacent to gear selector.
4. Place the gear selector in PARK and start the engine.

   The instrument panel POWER lamp should light for approximately 2 seconds.
5. Switch the ignition off, place the gear selector in 1ST, and set the MANUAL switch to on.
6. Place the gear selector in 2ND, and set the MANUAL switch to off.
7. Place the gear selector in 3RD, and set the MANUAL switch to on.
8. Place the gear selector in DRIVE, and set the MANUAL switch to off.
9. Fully depress and release the throttle to begin manual history codes.

   If no codes are present, the POWER lamp flashes evenly 2 times per second. If codes are present, the lamp flashes Code Type 8a (long/short) (Figure 15-45 on page 205).

15.2.5 1989-94 Justy ECVT Transmission

Use this procedure to test the 1989–94 Justy electronic constant velocity transmission (ECVT). On ECVT models you must perform the memory code diagnostic check before checking for current codes (D-Check). Failure to do so results in the loss of memory codes.

To place TCM in diagnostic, memory-code display-mode:

1. With the ignition off, mate the check mode connectors (white, single-pin connector near ECVT ECM).
2. Place the gear selector in neutral and switch the ignition on (engine off).
3. On 2WD models, the ECVT lamp on the instrument panel should light.
4. On 4WD models, the CLUTCH TEMP lamp should light.
5. While holding the throttle fully depressed, move the gear selector from neutral-to-reverse, and then back to neutral.
6. Release the throttle and start the engine. If no codes are present, the ECVT (2WD) or CLUTCH TEMP (4WD) lamp flashes evenly 2-times per second. If codes are present, the lamp flashes Code Type 8a (long/short) (Figure 15-45 on page 205).

IMPORTANT:
Perform the following procedure only in an area where the vehicle can safely coast to a stop from 25 mph, without applying the brakes.

To perform the Justy D-Check for current codes, proceed as follows:

1. With the ignition off, mate the check mode connectors (white, single-pin connector near ECVT ECM).
2. Start and warm the engine to operating temperature.
3. Switch the ignition off and place the shift lever in PARK.
4. Switch the ignition on (engine off).
5. On 2WD models, the ECVT lamp on the instrument panel should light.
6. On 4WD models, the CLUTCH TEMP lamp should light.
7. Start the engine.

   The ECVT or CLUTCH TEMP lamp flashes the ID number of the TCM using a Code Type 8a (long/short) pattern.
8. With the engine running, firmly depress the brake pedal and move the shift lever from PARK-to-REVERSE-to-NEUTRAL-to-DRIVE-to-Ds, and then back to DRIVE.
9. Perform full throttle acceleration to 25 mph and then let the vehicle coast to a stop without applying the brakes.
10. Press and release the brake pedal three times.
11. If no codes are present, the ECVT (2WD) or CLUTCH TEMP (4WD) lamp flashes evenly, 2 times per second.
12. If codes are present, the lamp flashes Code Type 8a (long/short) (“Subaru Code Type 08a” on page 205, Figure 15-45).

15.2.6 1996-05 Subaru Models with an OBD-II 16-pin Connector

1996-2005 Subaru models with an OBD-II 16-pin connector do not support any other specific diagnostic routines. Refer to the section “Testing Engine Systems” on page 165 for OBD-II 16-pin connector locations. Codes displayed are OBD-II Generic Powertrain codes.

15.3 Testing ABS Systems

The following sections include information for testing Subaru antilock brake systems. Subaru ABS testing includes the following:

- ABS Code Information
- ABS Code Types
- ABS Code Reading and Connector Locations

15.3.1 ABS Code Information

If you select ABS from the System Selection menu after identifying a 1990-2004 model year vehicle, the scan tool gives you instructions for applying power. If you select ABS from the System Selection menu after identifying a 2005 model year vehicle, the scan tool gives you instructions for connecting to the OBD-II 16-pin connector.

1990-2004 Subaru ABS systems use manual code gathering only. The HOW TO GET CODES selection from the Code Functions menu displays manual code gathering instructions (see “How to Get Codes” on page 15).

The ABS system is placed in the diagnostic mode by performing vehicle-specific diagnostic routines. These routines consist of driving the vehicle over a specified speed, driving for a specified time or connecting a grounded jumper to a specific pin of the diagnostic connector.

15.3.2 ABS Code Types

Detailed information for reading code types can be found in “Code Type 08” at the end of the “Testing Engine Systems” section on page 203.

Subaru ABS systems use the following code types:

- “Code Type 08 (Straight Count)” on page 204 for ABS systems without memory
- “Code Type 08c” on page 207 for ABS systems with memory
- “Code Type 08d” on page 208 for ABS systems with TCS
- Manufacturer Specific Codes for 2005 Subaru ABS systems

ABS Code Types by Model

- 1990 Legacy Touring Wagon—Code Type 08 (Straight Count) (Figure 15-44 on page 204).
- 1990–92 Legacy Wagon—Code Type 08 (Straight Count) (Figure 15-44 on page 204).
- 1990–92 Sedan 2.2L—Code Type 08 (Straight Count) (Figure 15-44 on page 204).
- 1992–97 SVX—Code Type 08 (Straight Count) (Figure 15-44 on page 204).
- 1993–04 All Others—Code Type 08c (Figure 15-47 on page 207).
- 1995–97 Legacy Sedan with TCS—Code Type 08d (Figure 15-48 on page 208).
- 1995–97 Legacy Outback with TCS—Code Type 08d (Figure 15-48 on page 208).
- 1995–97 Legacy Wagon with TCS—Code Type 08d (Figure 15-48 on page 208).
- 2005 All Subaru models display codes and data with the scan tool.

15.3.3 ABS Code Reading and Connector Locations

- 1990–1992 Legacy/Outback, Sedan and Wagon (Figure 15-49 on page 215)
- 1992–1997 SVX (Figure 15-49 on page 215)
- 1993–1994 Legacy/Outback, Sedan and Wagon (Figure 15-50 on page 216)
- 1995–1996 Legacy/Outback, Sedan and Wagon w/o TCS (Figure 15-51 on page 218)
- 1995–1996 Legacy/Outback, Sedan and Wagon with TCS (Figure 15-51 on page 218)
- 1993–1996 Impreza Coupe, Sedan and Wagon w/o TCS (Figure 15-51 on page 218)
- 1997 (early) Legacy/Outback, Sedan and Wagon (Figure 15-53 on page 220)
- 1997 (late)–1999 Legacy/Outback, Sedan and Wagon (Figure 15-51 on page 218)
- 1998–2001 Impreza Coupe, Sedan and Wagon (Figure 15-51 on page 218)
- 2001 Forester (Figure 15-51 on page 218)
- 2000–2004 Legacy/Outback, Sedan and Wagon (Figure 15-54 on page 221)
- 2003–2004 Baja (Figure 15-51 on page 218)
- 2005 All Subaru Models ((Figure 15-55 on page 222)

1990–92 Legacy/Outback, Sedan and Wagon
1992–97 SVX

To retrieve trouble codes:

1. Drive the vehicle at speeds greater than 19mph (30kph) for at least one minute before attempting to access the self-diagnostic program.
2. Do not switch the ignition off after driving.
3. The ABS lamp on the instrument panel turns on when the self-diagnostic program senses a problem.
4. About 5 to 12 seconds after the instrument panel lamp turns on, the ABS trouble codes display by flashing an LED.
5. The LED is located under the right-front seat (Figure 15-49). See “Subaru Code Type 08 (Straight Count)” on page 204 for reading codes from the flashing LED.

NOTE:
Both the instrument panel lamp and LED remain active as long as the ignition is on. There is no memory, so trouble codes are lost if the key is switched off.

Only one code displays at a time. Repair and road test until all problems are corrected.

If the LED does not flash codes and the instrument panel lamp is on, check the power supply circuit.

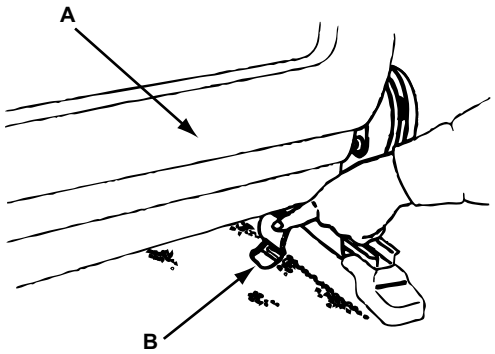


Figure 15-49 *1990-92 Legacy and 1992-97 SVX ABS LED location*

A—Right front seat

B—LED

1993-94 Legacy/Outback, Sedan and Wagon

To retrieve trouble codes:

1. Remove the lower trim panel from the driver side front pillar or kick-panel.
2. Next, switch the ignition on.
3. Ground the ABS Check connector terminal L (Figure 15-50)
4. Read the trouble codes on the ABS warning lamp (Code Type 08c Figure 15-47)

NOTE:
Code 11 displays first, then the stored codes display in order, beginning with the most recent stored codes.

The code display repeats for up to five minutes.

If there are no codes in memory, only code 11 displays.

To clear code memory:

1. Disconnect the ABS Check connector terminal L from ground (Figure 15-50).
2. Connect terminal L to ground for at least 0.05 second and then disconnect it.
3. Repeat step 2 an additional two times (3 times total) within twelve seconds

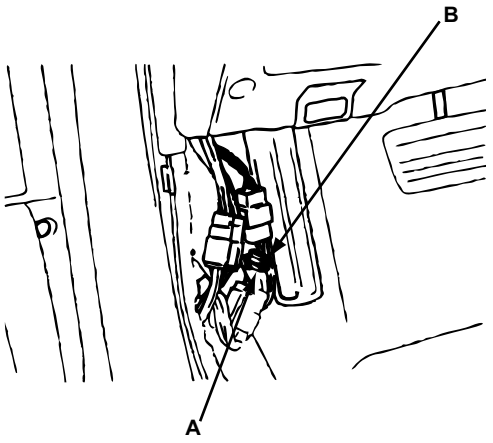


Figure 15-50 *1993–94 Legacy ABS Check connector location*

A—Terminal K
B—Terminal L

1995–96 Legacy/Outback, Sedan and Wagon w/o TCS
1997 (late)–99 Legacy/Outback, Sedan and Wagon
1998–04 Impreza Coupe, Sedan and Wagon
2001–04 Forester
2003–04 Baja

To retrieve trouble codes:

1. Locate the ABS diagnostic connector and diagnostic terminals near the heater assembly on the driver side (Figure 15-51).
2. Switch the ignition off.
3. Connect a diagnosis terminal to the diagnosis connector terminal 6.
4. Switch the ignition on.
5. Read the trouble codes on the TCS warning lamp (Code Type 08c – Figure 15-47)

NOTE:
Code 11 displays first, then the stored codes display in order, beginning with the most recent stored codes.

The code display repeats for up to five minutes.

If there are no codes in memory, only code 11 displays.

To clear code memory:

1. Disconnect the diagnosis terminal from the diagnosis connector terminal 6 (Figure 15-51).
2. Connect the diagnosis terminal to the diagnosis connector terminal 6 for at least 0.2 second and then disconnect it.
3. Repeat step 2 an additional two times (3 times total) within twelve seconds.

1995–96 Legacy/Outback, Sedan and Wagon with TCS

To retrieve trouble codes:

1. Locate the ABS diagnostic connector and diagnostic terminals near the heater assembly on the driver side (Figure 15-51).
2. Switch the ignition off.
3. Connect a diagnosis terminal to the diagnosis connector terminal 4.
4. Switch the ignition on.
5. Read the trouble codes on the TCS warning lamp (Code Type 08d – Figure 15-48)

NOTE:
Code 11 displays first, then the stored codes display in order, beginning with the most recent stored codes.

If there are no codes in memory, only code 11 displays.

To clear code memory:

1. Disconnect the diagnosis terminal from the diagnosis connector terminal 4 (Figure 15-51).
2. Connect the diagnosis terminal to the diagnosis connector terminal 4 for at least 0.15 second and then disconnect it.
3. Repeat step 2 an additional two times (3 times total) within twelve seconds.

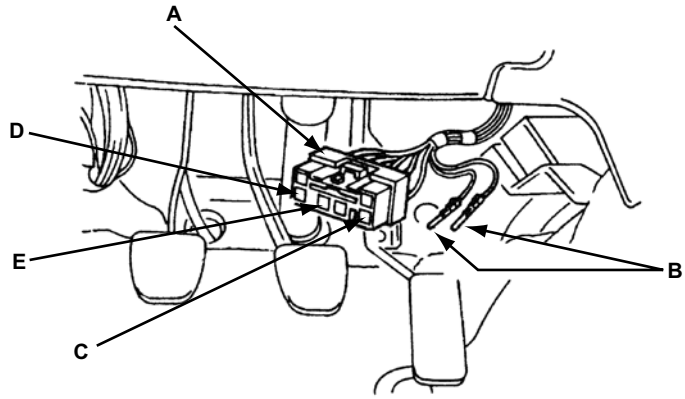


Figure 15-51 *1995-99 Legacy, 1998-04 Impreza, 2001-04 Forester and 2003-04 Baja ABS Diagnostic Connector Location*

A—Diagnosis connector
B—Diagnosis terminals
C—Pin 6 (L Terminal)
D—Pin 3 (K Terminal)
E—Pin 4 (with TCS)

1993–96 Impreza Coupe, Sedan and Wagon

To retrieve trouble codes:

1. Locate the ABS diagnostic connector under the dash near the steering column (Figure 15-52).
2. Switch the ignition off.
3. Ground the ABS Check connector terminal L.
4. Switch the ignition on.
5. Read the trouble codes on the ABS warning lamp (Code Type 08c - Figure 15-47).

NOTE:
Code 11 displays first, then the stored codes display in order, beginning with the most recent stored codes.

The code display repeats for up to five minutes.

If there are no codes in memory, only code 11 displays.

To clear code memory:

1. Disconnect the ground from the ABS Check connector terminal L.
2. Connect the ground to the ABS Check connector terminal L for at least 0.05 second and then disconnect it.
3. Repeat step 2 an additional two times (3 times total) within twelve seconds.

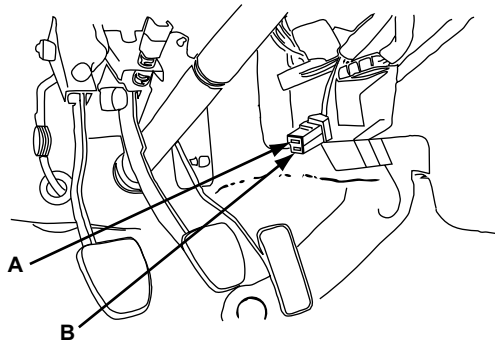


Figure 15-52 *1993–96 Impreza ABS Check connector location*

A—Terminal L

B—Terminal K

1997 Impreza Coupe, Sedan and Wagon
1997 (early) Legacy/Outback, Sedan and Wagon

To retrieve trouble codes:

1. Locate the ABS diagnosis connector and diagnosis terminals near the heater assembly on the driver side (Figure 15-53).
2. Switch the ignition off.
3. Connect a diagnosis terminal to the diagnosis connector terminal 2.
4. Switch the ignition on.
5. Read the trouble codes on the ABS warning lamp (Code Type 08c - Figure 15-47).

NOTE:
Code 11 displays first, then the stored codes display in order, beginning with the most recent stored codes.

The code display repeats for up to five minutes.

To clear code memory:

1. Disconnect the diagnosis terminal from diagnosis connector terminal 2.
2. Connect the diagnosis terminal to diagnosis connector terminal 2 for at least 0.05 second and then disconnect it.
3. Repeat step 2 an additional two times (3 times total) within twelve seconds.

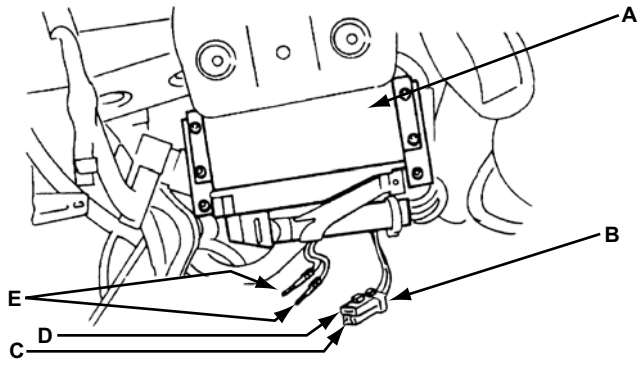


Figure 15-53 *1997 Impreza and 1997 (early) Legacy ABS diagnostic connector location*

A—ABS control module
B—ABS diagnosis connector
C—Terminal 2
D—Terminal 1
E—Diagnosis terminal

2000–04 Legacy/Outback, Sedan and Wagon

To retrieve trouble codes:

1. Locate the ABS diagnosis connector and diagnosis terminals near the heater assembly on the driver side (Figure 15-54).
2. Switch the ignition off.
3. Connect a diagnosis terminal to the diagnosis connector terminal 8.
4. Switch the ignition on.
5. Read the trouble codes on the ABS warning lamp (Code Type 08c - Figure 15-47).

NOTE:
Code 11 displays first, then the stored codes display in order, beginning with the most recent stored codes.

The code display repeats for up to three minutes.

To clear code memory:

1. Disconnect the diagnosis terminal from diagnosis connector terminal 8.
2. Connect the diagnosis terminal to diagnosis connector terminal 8 for at least 0.2 second and then disconnect it.
3. Repeat step 2 an additional two times (3 times total) within twelve seconds.

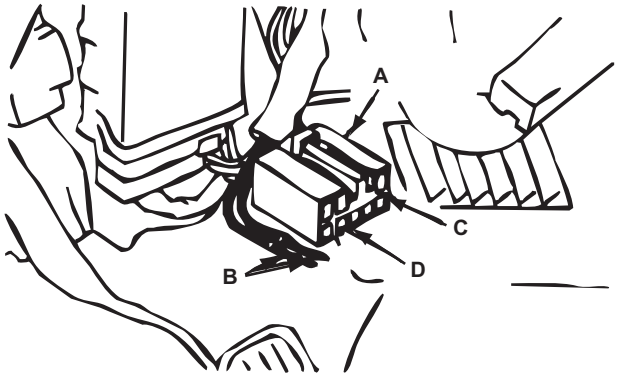


Figure 15-54 *2000–04 Legacy ABS diagnosis connector location*

A—Diagnostic connector
B—Diagnosis terminal
C—8 terminal
D—5 terminal

2005 All Subaru Models

To retrieve trouble codes:

1. Use the OBD-II adapter with the specified Personality Key™ device (Figure 15-55).
2. Select CODES ONLY from the CODES & DATA menu and follow any instructions on the scan tool display.

To clear code memory:

- Select CLEAR CODES from the CODES & DATA menu and follow any instructions on the scan tool display.

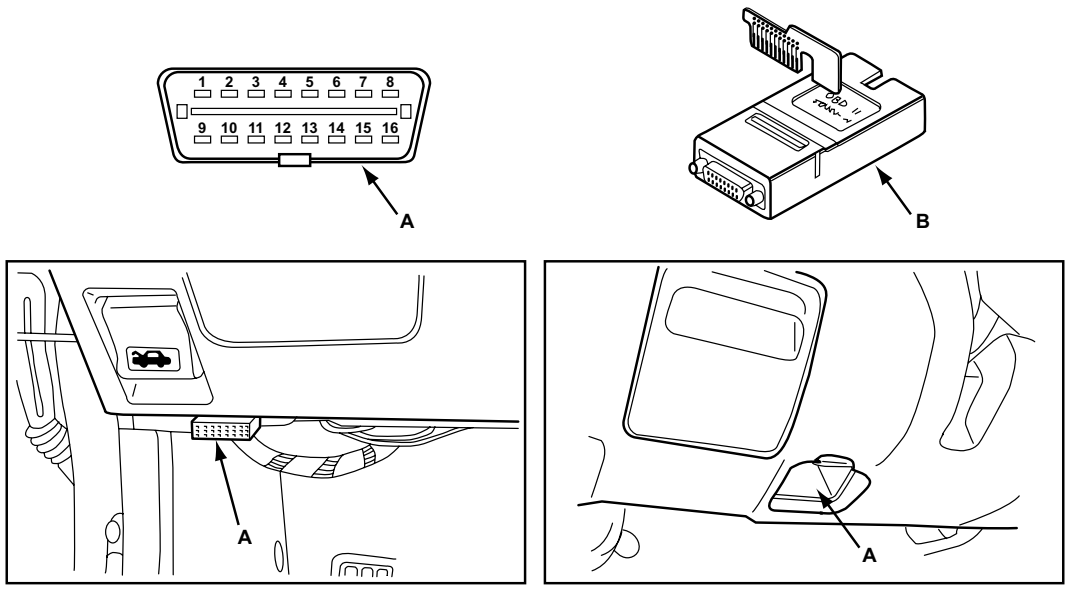


Figure 15-55 *16-Pin OBD-II connector and common locations*

A—16-pin DLC

B—OBD-II adapter and Personality Key™

15.4 Testing Airbag (SRS - Supplemental Restraint Systems)

The following sections include information for testing Subaru airbag (SRS) systems. Subaru airbag (SRS) testing includes the following:

- Airbag (SRS) Code Information
- Airbag (SRS) Code Types
- Airbag (SRS) Code Reading and Connector Locations

15.4.1 Airbag (SRS) Code Information

If you select AIRBAG from the System Selection menu after identifying a 1992–2005 model year vehicle, except the 2005 Legacy/Outback Sedan or Wagon, the scan tool give you instructions for applying power. If you select AIRBAG from the System Selection menu after identifying a 2005 Legacy/Outback Sedan or Wagon, the scan tool gives you instructions for connecting to the OBD-II 16-pin connector.

All Subaru AIRBAG systems, except for 2005 Legacy/Outback Sedan or Wagon models, use manual code gathering only. The HOW TO GET CODES selection from the Code Functions menu displays manual code gathering instructions (see “How to Get Codes” on page 15)

The AIRBAG system is placed in the diagnostic mode by performing vehicle specific diagnostic routines. These routines consist of connecting a grounded jumper or a diagnostic terminal to a specific pin of the diagnostic connector.

15.4.2 Airbag (SRS) Code Types

Detailed information for reading code types can be found in “Code Type 08” on page 203.

Subaru airbag (SRS) systems use the following code types:

- “Code Type 08 (Straight Count)” on page 204
- “Code Type 08c” on page 207 for most 1992–2005 Subaru airbag (SRS) systems
- Manufacturer Specific Codes for 2005 Subaru Legacy Outback Sedan and Wagon airbag (SRS) systems

15.4.3 Airbag (SRS) Code Reading and Connector Locations

- 1992–1997 SVX (Figure 15-56 on page 224)
- 1995–1999 Legacy/Outback, Sedan and Wagon (Figure 15-57 on page 225)
- 1998–2004 Impreza Coupe, Sedan and Wagon (Figure 15-57 on page 225)
- 1998–2004 Forester and Wagon (Figure 15-57 on page 225)
- 2000–2004 Legacy/Outback Sedan and Wagon (Figure 15-58 on page 226)
- 2003–2005 Baja (Figure 15-58 on page 226)
- 2005 Forester (Figure 15-59 on page 227)
- 2005 Impreza (Figure 15-59 on page 227)
- 2005 Legacy/Outback Sedan and Wagon (Figure 15-60 on page 228)

1992–97 SVX

To retrieve 1992–1997 SVX airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 9 of the airbag (SRS) diagnostic connector. The connector is located in the left kick panel area (Figure 15-56).
2. Read the trouble codes on the SRS or airbag warning light (Code Type 08c - Figure 15-47).
3. Turn the key off and remove the diagnostic terminal from the diagnostic connector.

To clear code memory:

1. With the key on and the engine off, install either diagnostic terminal into pin 9 of the airbag (SRS) diagnostic connector (Figure 15-56).
2. When the SRS or airbag warning light is flashing trouble codes, install the other diagnostic terminal into pin 3 of the diagnostic connector for at least 3 seconds.
3. Codes are cleared when the SRS or airbag warning light resumes a normal flashing rate of 0.6 seconds ON and 0.6 seconds OFF.

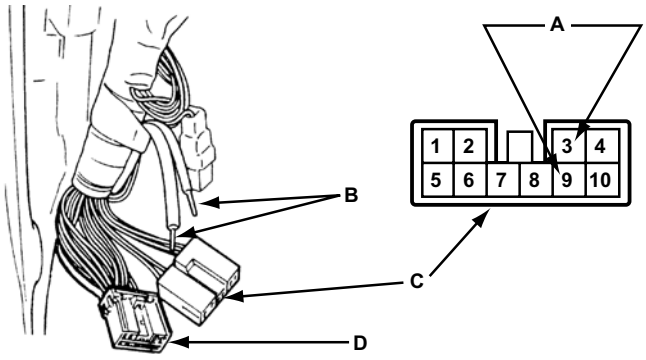


Figure 15-56 *SVX airbag*

A—Pins 3 and 9

B—Diagnostic terminals

C—Airbag (SRS) Diagnostic connector (Black)

D—Subaru Select Monitor connector (yellow)

1995–1999 Legacy/Outback, Sedan and Wagon
1998–2004 Impreza Coupe, Sedan and Wagon
1998–2004 Forester and Wagon

To retrieve 1998–2004 Impreza, 1995–1999 Legacy, and 1998–2004 Forester airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 1 or the airbag (SRS) diagnostic connector. The connector is located in the left lower dash panel area (Figure 15-57).
2. Read the trouble codes on the SRS or airbag warning light (Code Type 08c - Figure 15-47).
3. Turn the key off and remove the diagnostic terminal from the diagnostic connector.

To clear 1998–2004 Impreza, 1995–1999 Legacy, and 1998–2004 Forester airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 1 of the airbag (SRS) diagnostic connector (Figure 15-56).
2. When the SRS or airbag warning light is flashing trouble codes, install the other diagnostic terminal into pin 2 of the diagnostic connector for at least 3 seconds.
3. Codes are cleared when the SRS or airbag warning light resumes a normal flashing rate of 0.6 seconds ON and 0.6 seconds OFF.

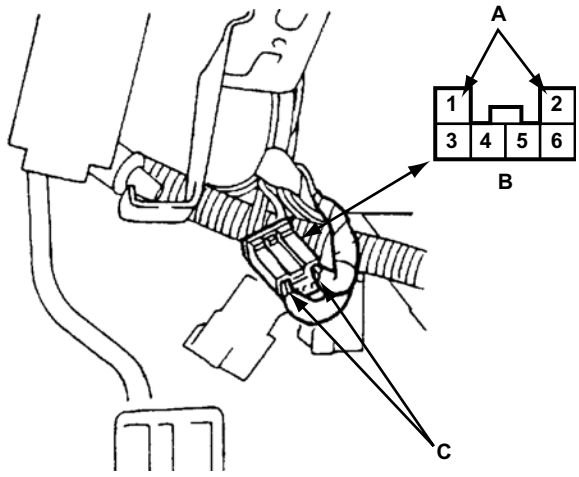


Figure 15-57 *1998-2004 Impreza, 1995-1999 Legacy, and 1998-2004 Forester Airbag (SRS) Diagnosis Connector Location*

A—Pins 1 and 2

B—Airbag (SRS) Diagnostic connector

C—Diagnostic terminals

2003–2004 Legacy/Outback, Sedan and Wagon
2003–2005 Baja

To retrieve 2000–2004 Legacy/Outback and 2003–2005 Baja airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 2 or the airbag (SRS) diagnostic connector. The connector is located in the left lower dash panel area (Figure 15-58).
2. Read the trouble codes on the SRS or airbag warning light (Code Type 08c - Figure 15-47).
3. Turn the key off and remove the diagnostic terminal from the diagnostic connector.

To clear 2000–2004 Legacy/Outback and 2003–2005 Baja airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 2 of the airbag (SRS) diagnostic connector (Figure 15-56).
2. When the SRS or airbag warning light is flashing trouble codes, install the other diagnostic terminal into pin 3 of the diagnostic connector for at least 3 seconds.
3. Codes are cleared when the SRS or airbag warning light resumes a normal flashing rate of 0.6 seconds ON and 0.6 seconds OFF.

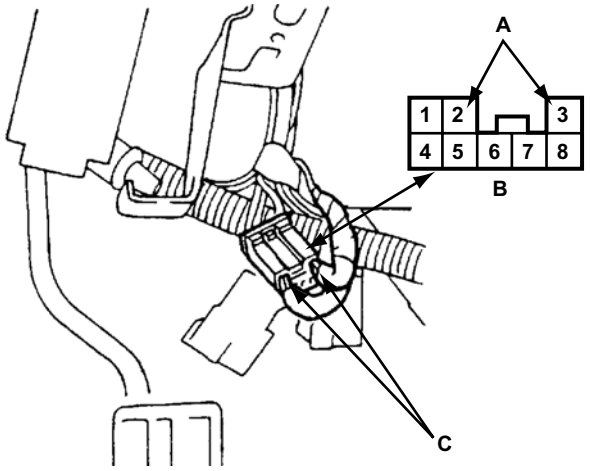


Figure 15-58 *2000–04 Legacy and 2003–05 Baja Airbag (SRS) Diagnosis connector*

A—Pins 2 and 3

B—Airbag (SRS) Diagnostic connector

C—Diagnostic terminals

2005 Forester
2005 Impreza Sedan and Wagon

To retrieve 2005 Impreza Sedan and Wagon and 2005 Forester airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 2 or the airbag (SRS) diagnostic connector. The connector is located in the left lower dash panel area (Figure 15-59).
2. Read the trouble codes on the SRS or airbag warning light (Code Type 08c - Figure 15-47).
3. Turn the key off and remove the diagnostic terminal from the diagnostic connector.

To clear 2005 Impreza Sedan and Wagon and 2005 Forester airbag (SRS) codes:

1. With the key on and the engine off, install either diagnostic terminal into pin 2 of the airbag (SRS) diagnostic connector (Figure 15-59).
2. When the SRS or airbag warning light is flashing trouble codes, install the other diagnostic terminal into pin 3 of the diagnostic connector for at least 3 seconds.
3. Codes are cleared when the SRS or airbag warning light resumes a normal flashing rate of 0.6 seconds ON and 0.6 seconds OFF.

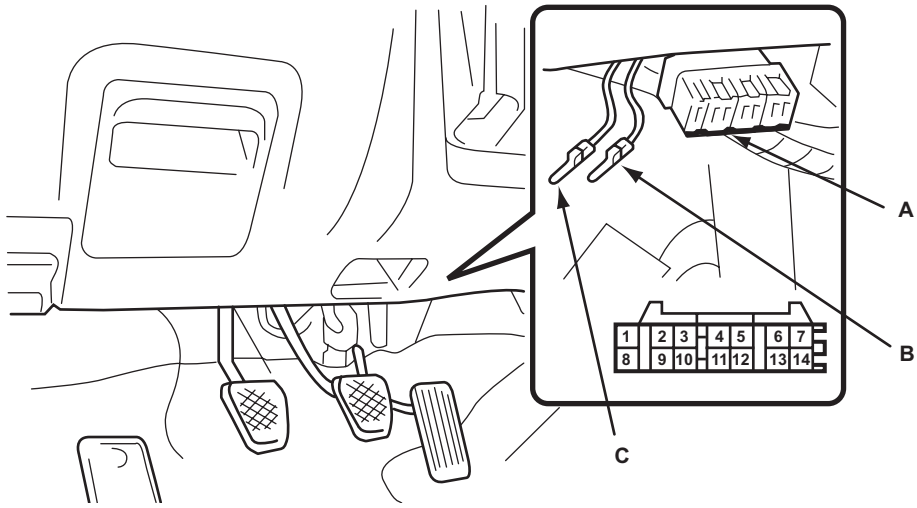


Figure 15-59 *2005 Forester and 2005 Impreza SRS Diagnostic connector (gray)*

A—Airbag (SRS) Diagnostic Connector

B—Diagnostic terminal B

C—Diagnostic terminal A

2005 Legacy/Outback Sedan and Wagon

To retrieve trouble codes:

1. Use the OBD-II adapter with the specified Personality Key™ device (Figure 15-60).
2. Select CODES ONLY from the CODES & DATA menu and follow any instructions on the scan tool display.

To clear code memory:

- Select CLEAR CODES from the CODES & DATA menu and follow any instructions on the scan tool display.

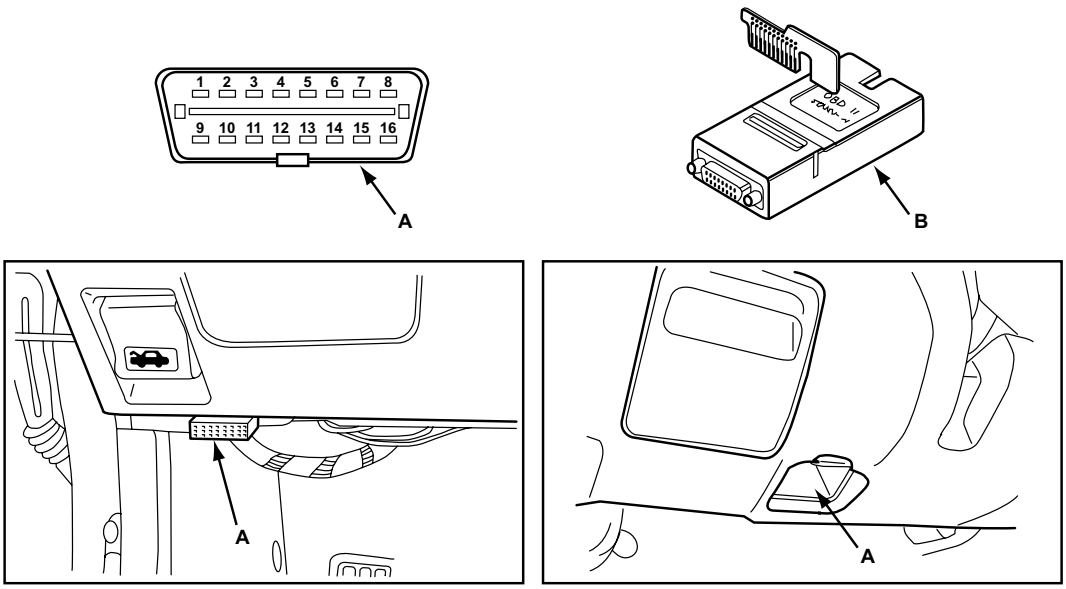


Figure 15-60 *16-Pin OBD-II connector and common locations*

A—16-pin DLC

B—OBD-II adapter and Personality Key™